VIOLENCE RISK ASSESSMENT WITH YOUTH WHO HAVE SEXUALLY OFFENDED: A PSYCHOMETRIC EXAMINATION OF THE VIOLENCE RISK SCALE: YOUTH SEXUAL OFFENDER VERSION (VRS:YSO)

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By

Erika Yuliana Rojas Mejia

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Dean
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University of Saskatchewan
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Canada

ABSTRACT

The present research was archival in nature. It was divided into three phases involving a comprehensive psychometric examination of a newly developed risk assessment measure designed to assess risk for sexual violence, guide treatment planning, assess readiness to change, and evaluate whether positive changes in risk are linked to reductions in recidivism risk among sexually offending youth–the Violence Risk Scale: Youth Sexual Offender version (VRS:YSO). Phase I focused on an examination of the basic psychometric properties of a young offender version of the Violence Risk Scale–Sexual Offender Version (VRS–SO; Wong et al., 2003), subsequently referred to as the VRS:YSO. The tool revision was based on a thorough review of the literature on male youth and adults who have sexually offended and selected readings on youth violence, as well as a review of a measure designed to assess risk for violence among violent youth (i.e., the VRS:YV). The developers of the VRS–SO completed the structural revisions to the tool. The resulting risk assessment measure included six *static* and 17 *dynamic risk variables* that are empirically and/or theoretically associated with an increased risk for sexual violence among youth. As part of its initial psychometric examination, the VRS:YSO was rated retrospectively from the comprehensive files of 99 male sexually offending youth who had received outpatient sex offender services (i.e., assessment and/or treatment) from the Saskatoon Health Region, Child and Youth Services (CYS)–Young Offender Program (YOP) from 1995 to 2008. Overall, the VRS:YSO showed good-to-excellent interrater reliability, sound item properties (i.e., internal consistency and item-total correlations), and a factor structure that is consistent with research on sexually offending youth and adults, as well as other measures designed to assess risk for sexual violence in youth.

Phase II focused on the validation of the VRS:YSO through examining the concurrent, postdictive, predictive, and incremental validity of the measure. Moreover, the psychometric properties of existing specialized risk assessment measures (i.e., J-SOAP-II, ERASOR, and J-SORRAT-II) were examined to inform the limited, albeit growing, literature on risk assessment with sexually offending youth. All measures were rated from the same comprehensive youth files as in Phase I. Youth were followed-up for an average of 11.83 years (*SD* = 3.42, range = 3.89-17.41) starting from their first contact with the community post-adjudication (i.e., release from custody or commencement of a community sentence). Overall reconviction rates were 8% for sexual, 24% for any violent (sexual and nonsexual), and 37% for general (any) offending. In

sum, there was good preliminary evidence for the concurrent and, to some extent, postdictive validity of the VRS:YSO. Furthermore, there was good evidence for the predictive validity of the measure, particularly with respect to any violence (sexual and nonsexual) and general (any) recidivism. There was also encouraging evidence, albeit offset seemingly by a small post-treatment N and thus restricted power, on the potential value of the therapeutic change score in the prediction of recidivism risk. These findings supported the value of the VRS:YSO as a new specialized risk assessment measure for sexually offending youth, particularly as it uniquely includes a systematic rubric for assessing change. Moreover, there was good evidence for the predictive validity of the J-SORRAT-II and certain components of the J-SOAP-II for sexual recidivism. There was also good evidence for the predictive validity of the J-SOAP-II and the ERASOR for violent (sexual and nonsexual) and general (any) recidivism.

Lastly, Phase III examined the role of psychopathy-related personality features (as measured by the PCL:YV) in the criminal and treatment outcomes of youth who have sexually offended. The PCL:YV was rated from the same comprehensive youth files (in conjunction with the other measures referenced above). Overall, the PCL:YV significantly predicted violent (sexual and nonsexual) and general (any) reoffending, particularly among offenders with any peer/adult victims, but not sexual reoffending. Increasing psychopathy-related personality features were significantly associated with non-completion of treatment. Clinical implications of research findings, along with limitations and future research directions for each of the three phases of this research were discussed.

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Chapter 1.

Violence Risk Assessment with Youth Who Have Sexually Offended:[1] A Psychometric Examination of the Violence Risk Scale: Youth Sexual Offender Version (VRS:YSO)

1.1 General Introduction: Scope of the Problem

Sexual violence perpetrated by youth is a serious social problem in our society. In 2002, data from the Statistics Canada Uniform Crime Reporting survey showed that young males, ages 13 to 17, had the highest rates of sexual offending, with peak levels among 13 and 14-year-olds (Juristat, 2003). This peak among 13 and 14-year-olds was specific to sexual assault involving minor physical injuries or no injuries to the victim, as well as other sexual offences involving children. According to the 2007 Federal Bureau of Investigation's (FBI's) Uniform Crime Report, persons under 18 accounted for 15.4% of arrests for forcible rape and 18.4% of arrests for other sex offences, namely statutory rape and offences against chastity, decency, and morals (U.S Department of Justice, 2007).

The FBI's National Incident-Based Reporting System (NIBRS) revealed that juveniles accounted for 26% of the victims of violent crime reported to law enforcement agencies in 2000 and 2001, and that of all juvenile victims of violent crime, 52% were victims of sexual assault (Snyder & Sickmund, 2006). In addition, the NIBRS showed that victims between ages 6 and 14 were equally likely to be sexually assaulted by persons under 18 as by adults. Moreover, a survey designed to obtain 1-year incidence estimates on the sexual victimization experiences of a representative sample of U.S children, ages 2 to 17, found that among those children who reported sexual assault, 72% of the perpetrators were identified as juveniles (Finkelhor, Ormrod, Turner, & Hamby, 2005).

Although these statistics highlight the gravity of the problem, they fail to provide an accurate representation of the sexual violence committed by youth. Data from Statistics Canada 1999 General Social Survey on Victimization revealed that the unreported rate for sexual assault (78%) was considerably higher than for other offences such as robbery (51%), physical assault (61%), and break and enter (35%), indicating that sexual assault was one of the crimes least likely to be reported to the police. The police have been more likely to declare sexual offences unfounded compared to other violent offences thus less likely to lay charges against an accused

person in 2002. In addition, the police were more likely to deal with 13 and 14-year-old male perpetrators of sexual offences informally compared to their older counterparts (Juristat, 2003).

Studies on male adults who have sexually offended also highlighted the unreported nature of sexual offences and the need to focus on youth. For instance, Knight and Prentky (1993) found that 55% of adult offenders admitted committing sexual offences as juveniles, but that only 37% of their sample had criminal records showing a juvenile history of sexual offending. Groth, Longo, and McFadin (1982) administered a questionnaire to 137 male adults convicted of sexual assault and found that the modal age at first sexual offence for both rapists and child molesters was 16, indicating that most offenders began their sexually abusive behaviour during adolescence. From a sample of 231 male adults convicted of sexual assault against children or adults, Longo and Groth (1983) found that 32% of the combined sample exhibited compulsive masturbation and that 24% sexually exposed themselves as juveniles. These findings indicate that a significant number of offenders display sexually inappropriate behaviours during adolescence and that a subgroup of adolescents persist and/or escalate to committing serious sexual offences in adulthood.

Similarly, studies examining the criminal histories of male youth who have sexually offended have highlighted the discrepancies between self-report and official criminal records, as well as the pervasiveness of deviant sexual behaviour for some adolescents. For instance, Becker, Cunningham-Rathner, and Kaplan (1986a) found that 31% of 67 male adolescents adjudicated for a sexual offence denied committing a sexual offence despite their criminal records contradicting their self-report. Forty-one adolescents categorized as pedophiles reported committing 63 deviant sexual acts against a total of 53 victims; however, the criminal records of most adolescents showed only one offence per adolescent. Moreover, 79% of the total sample was arrested for a prior sexual offence, indicating that for these adolescents sexual offending constituted a repetitive pattern. Lastly, most adolescents engaged in nondeviant sexual behaviour, which suggested that deviant sexual behaviour was not simply part of adolescent sexual experimentation or curiosity; instead, it may represent the development of deviant sexual interest (Becker et al., 1986a).

In a study of 22 male adolescents adjudicated for a sexual offence against a family member, 31.8% denied committing a sexual crime, 72.7% had being arrested for a prior sexual offence, and 95% reported having a nondeviant nongenital sexual experience (*M* age = 10.3

years). The mean age of nondeviant nongenital sexual experience preceded the time most adolescents reported engaging in deviant sexual behaviour, which was 14 years old (Becker, Kaplan, Cunningham-Rathner, & Kavoussi, 1986b). These findings highlight the tendency of *some* youth to deny or minimize deviant sexual behaviour, the repetitive nature of sexual offending for *some* adolescents, and the need not to disregard deviant sexual behaviour among adolescents as simply sexual exploration and/or experimentation.

Zolondek, Abel, Northey, and Jordan (2001) reported data from 485 male adolescents, ages 11 to 17, seeking assessment or treatment services for possible sexually deviant behaviours and interests. Of the total sample, 61% reported engaging in child molestation, 26% in fetishism, 16% in obscene phone calls, and 17% in voyeurism and unwanted touching or rubbing. In addition, 32% admitted using pornography and 15% reported engaging in phone sex. Adolescents concerned about providing socially desirable responses were less likely to report engaging in sexually deviant behaviours, highlighting the importance to assess for social desirability when measuring the prevalence of adolescents' deviant sexual behaviours and interests. Furthermore, the mean age of onset for these sexually deviant behaviours ranged from 10.8 to 12.4 years suggesting that deviant sexual patterns could originate in preadolescence. Of note, Zolondek and colleagues did not examine the progression of deviant sexual patterns from adolescence to adulthood. As a result, there was no evidence that adolescents who engaged in sexually deviant behaviours continue to engage in these behaviours and/or commit sexual offences as adults.

Lastly, sexual violence results in substantial costs to individuals, families, and communities (Righthand & Welch, 2004). For instance, women who experience child sexual abuse (CSA) tend to describe their abusive experiences negatively, ranging from confusing and disturbing to disgusting and severely distressing. These women report a myriad of personal problems including sexual difficulties, relationship problems (e.g., trust issues, negative partner perceptions, and fear of men), damaged self-esteem, and mental health issues such as depression, eating disorders, and substance abuse (Mullen, Martin, Anderson, Romans, & Herbison, 1993; Mullen, Martin, Anderson, Romans, & Herbison, 1994). Regarding the impact of CSA on parents, Massat and Lundy (1998) found that nonoffending parents of intrafamilial sexually abused children experienced significant disruption in their relationships, employment, and living stability, as well as reported reduced income and increased dependence on government

assistance. From a broader societal perspective, the recidivism of individuals who sexually offend imposes great costs on society including people's perceptions of safety and taxpayers' money for the investigation of sexual offences, adjudication, incarceration, and treatment of individuals who commit sexual offences (Heilbrun, Nezu, Keeney, Chung, & Wasserman, 1998).

Summary: Scope of the Problem

Crime statistics and victimization surveys provide some indication about the extent that male adolescents engage in sexually abusive behaviour; however, data from these sources underestimate the scope of the problem. Studies on male adults and adolescents who commit sexual offences indicate that sexually deviant behaviour and/or offending has an onset in adolescence for some individuals, and that a number of sexual offences committed during this developmental period go undetected. In addition, some adolescents who sexually offend engage in repetitive sexual offending behaviour and may continue offending into adulthood. Finally, sexual violence brings enormous costs to society, particularly the victims. Given the seriousness of this problem, research in the assessment, treatment, and management of youth who sexually offend is paramount. Specifically, it is important to identify youths at high-risk for committing sexual offences and to develop appropriate management strategies for these youths. The identification of high-risk youth creates an opportunity to provide early intervention, as it reduces the likelihood of the continuation of sexual offending behaviour.

1.2 Research Objectives and Contributions

The present research was divided into three phases and had a total of four research objectives. The **first research objective** was to develop a young offender version of the Violence Risk Scale–Sexual Offender Version (VRS–SO; Wong, Olver, Nicholaichuk, & Gordon, 2003), subsequently referred to as the Violence Risk Scale: Youth Sexual Offender version (VRS:YSO). In light of the first research objective, the initial goal was to identify factors that are empirically and/or theoretically associated with an increased risk for sexual violence among youths. Published literature in the area of adolescent sexual offending and recidivism is in its infancy compared to the adult literature. Nonetheless, a growing body of research has identified potential risk factors for sexual (and nonsexual) violence among sexually offending youth (e.g., Gerhold, Browne, & Beckett, 2007; Kenny, Keogh, & Seidler, 2001; Långström & Grann, 2000; McCann & Lussier, 2008; Miner, 2002; Parks & Bard, 2006; Rasmussen, 1999; Worling & Långström, 2003, 2006). Considering the limited published research and the need to

obtain an in-depth understanding of youth who have sexually offended, studies focusing on the characteristics, risk assessment, recidivism, and treatment of sexually offending youth, as well as relevant literature on adults who have sexually offended were reviewed. The developmental literature was also consulted to guide the selection of potential risk factors, as well as to understand the uniqueness of the adolescent developmental period including challenges surrounding the assessment of this population.

Overall, the first research objective contributed to the literature on violence risk assessment with sexually offending youth as it focused on the development of the VRS:YSO–a developmentally appropriate risk assessment measure that serves multiple purposes, namely assesses risk for sexual violence, identifies treatment targets, assesses treatment readiness, and determines whether changes in risk are associated with a reduction in risk for sexual violence. Phase I constituted the development and initial psychometric examination of the VRS:YSO (i.e., item properties and scale structure).

Phase II was a comprehensive psychometric examination of the VRS:YSO and had two research objectives. The **second research objective** was to validate the VRS:YSO by examining its correlation with other risk assessment measures (convergent validity) and past sexual violence (postdictive validity); ability to predict future sexual violence (predictive validity), including whether positive changes in dynamic risk are associated with a reduction in violence risk; among other types of validity.

Moreover, at the time this research was proposed, there had been a small but growing number of studies examining the basic psychometric properties and validity of existing risk assessment measures for sexually offending youth. Consequently, the **third research objective** was to examine the psychometric properties of three existing risk assessment measures: the Estimate of Risk of Adolescent Sexual Offense Recidivism Version 2.0 (ERASOR; Worling & Curwen, 2001), the Juvenile Sex Offender Assessment Protocol-II (J-SOAP-II; Prentky & Righthand, 2003), and the Juvenile Sexual Offense Recidivism Risk Assessment Tool-II (J-SORRAT-II; Epperson, Ralston, Fowers, DeWitt, & Gore, 2005). The third research objective addressed the need for further research on existing assessment measures designed to assess risk for sexual (and nonsexual) violence among youth who have sexually offended.

Lastly, there is an increasing interest in the role of psychopathy-related personality features, recidivism, and treatment outcome among youth who have sexually offended (e.g.,

Gretton, Catchpole, McBride, Hare, & Regan, 2005; Gretton, McBride, Hare, O'Shaughnessy, & Kumka, 2001). Psychopathy is a personality disorder characterized by a cluster of interpersonal (e.g., arrogant, deceitful, and superficial), affective (e.g., shallow emotions, lack in empathy and remorse), and behavioural (e.g., impulsive and tendency to engage in criminal behaviour) traits that appear early in life (Hare, 1991, 2003). Given the central features of the disorder, individuals with psychopathy are at high risk for violence and aggression (Hare, 1999). The most frequently used measure of psychopathy in adults is the Hare Psychopathy Checklist-Revised (PCL-R; Hare, 1991, 2003). Research using the PCL-R has found psychopathy to be a strong predictor of violent and general recidivism in forensic samples (Hemphill & Hart, 2002). As a result, psychopathy has emerged as one of the most important constructs to consider in the assessment of adult offenders (Hare, 1999).

More recently, there is research indicating that psychopathy-related personality features can be reliably measured in adolescence and that similar to adults, such features are associated with an increased risk for violence and aggression in young offenders (e.g., Forth, Kosson, & Hare, 2003). Although few studies have investigated the role of psychopathy-related personality features in sexually offending youth, findings thus far indicate that sexually offending youth with high scores on the Hare Psychopathy Checklist: Youth Version (PCL:YV; Forth et al., 2003) are more likely to have serious criminal histories and to recidivate violently and nonviolently compared to youths with low PCL:YV scores (Gretton et al., 2005; Gretton, et al., 2001). Gretton et al. (2005) also reported that high scores in the PCL:YV were associated with treatment dropout, which in turn was associated with increasing risk for sexual and nonsexual violent recidivism.

Together, these studies highlight the need to consider psychopathy-related personality features in the assessment of violence risk in sexually abusive youth. Therefore, the **fourth research objective** was to examine the role of psychopathy-related personality features in the criminal and treatment outcomes of youth who have sexually offended and constituted Phase III of the present research.

Chapter 2.

Literature Review

2.1 Phase I Literature Review: Development and Initial Psychometric Examination of the Violence Risk Scale: Youth Sexual Offender Version (VRS:YSO)

This section begins with the examination of the offence characteristics and background histories of male youth who have sexually offended. Findings from this line of research highlight the complexity of problems faced by these youths, as well as help obtain a better understanding about the nature of their sexual offending behaviour. Knowledge in this area can also assist in the identification of potential treatment targets and guide the development of appropriate treatment strategies. Most importantly, research on the characteristics of male youth who have sexually offended sets the foundation for the identification of potential risk factors for future violence, particularly sexual violence.

Given the extensive literature reviews conducted for all three phases of the research and that Phase I literature review contributed to the revision process of the VRS–SO to develop the young offender version of the tool (i.e., VRS:YSO), a description of the method for conducting the literature search is explained. Computer searchers of PsycInfo, Web of Science, and Google Scholar were conducted using the following combination of key terms: *sexually offending youth, sex(ual) offender, juvenile sex offenders, adult sex offenders, pedophilia, child molester, rapist, sexual violence, youth violence, sexual deviancy, predict(ion), recidivism, reoffend, risk factors, characteristics, risk assessment, treatment, psychopathy, youth psychopathy, juvenile psychopathy*. ProQuest Dissertations & Theses (PQDT) was also used using the names of specialized risk assessment measures for sexually offending youth (i.e., J-SOAP-II, ERASOR, J-SORRAT-II) and the PCL:YV. Computer searchers were not limited by publication type or year to obtain a complete review of relevant literature. Furthermore, the reference lists of recent empirical studies and theoretical articles were reviewed. The *Association for the Treatment of Sexual Abusers* (ATSA) website and recent conference programs for ATSA and American Psychology Law Society (AP-LS) were consulted. Only literature focusing on male youth and adults who have sexually offended was selected for inclusion in the literature reviews for all three phases of the research. Therefore, findings are specific to male sexually offending youth and/or adults unless otherwise stated. Important strengths and/or limitations in the methodologies of individual studies were noted throughout the literature reviews, when deemed appropriate.

2.1.1 Characteristics of Youth Who Have Sexually Offended

2.1.1.1 Sexual offence and victim characteristics.

Male youth who sexually offend are a heterogonous group with diverse characteristics and needs (Becker, 1998; Knight & Prentky, 1993; Righthand & Welch, 2001, 2004; Veneziano & Veneziano, 2002). Regarding their offence characteristics, these youth engage in sexually offending behaviour ranging from noncontact offences such as indecent exposure and making obscene phone calls to contact offences such as fondling, oral-genital contact, and vaginal or anal penetration (Bourgon & Morton-Bourgon, 2004; Saunders & Awad, 1991; Righthand & Welch, 2001, 2004; Zolondek et al., 2001). Youth who sexually offend tend to select female victims, younger children as opposed to peer age, and relatives or acquaintances rather than strangers (Bourgon & Morton-Bourgon, 2004; Fehrenbach, Smith, Monastersky, & Deisher, 1986; Rasmussen, 1999; Righthand & Welch, 2001, 2004; Rojas & Gretton, 2007; Smith & Monastersky, 1986). For instance, Smith and Monastersky (1986) examined the criminal records of 112 sexually offending male youth and found that 71% targeted females, 73% had victims four years younger than themselves (mean victim age = 8.79 years), and 89% offended against relatives or acquaintances. Similarly, Fehrenbach et al. (1986) examined the records of 297 sexually offending male youth and found that 72% had female victims, 62% victimized children under 12, and 83% targeted family members or acquaintances. Studies have also revealed that babysitting provides an opportunity for male youth to commit sexual offences as it ensures victim access (Fehrenbach et al., 1986; Righthand & Welch, 2001, 2004; Rojas & Gretton, 2007; Smith & Monastersky, 1986).

The level of aggression utilized by male youth who sexually offend ranges from minimal violence such as convincing and coaxing to verbal threats, physical force, and weapon use (Bourgon & Morton-Bourgon, 2004; Fehrenbach et al., 1986; Knight & Prentky, 1993; Righthand & Welch, 2001, 2004; Rojas & Gretton, 2007). For example, of 133 sexually offending youth, Bourgon and Morton-Bourgon (2004) found that 67% used minimal violence in their sexual offences, namely coaxing and convincing. Rojas and Gretton (2007) reported that approximately 46% of male youth used violence and 30% used verbal threats in their sexual offences. Fehrenbach et al. (1986) found that 45% of 297 male youth used verbal threats, physical force, or weapons. Despite variability on aggression, male youth who sexually offend

against children appear to use intimidation more often than physical force to gain victim compliance (Becker, 1998; Lowenstein, 2006; Righthand & Welch, 2001, 2004).

Lastly, a significant proportion of sexually offending male youth engage in multiple sexually abusive behaviours (Awad & Saunders, 1989; Bourgon & Morton-Bourgon, 2004). Male youth who sexually offend also tend to have at least one prior sexual offence in their criminal records (Becker et al., 1986a; Fehrenbach et al., 1986; Smith & Monastersky, 1986).

2.1.1.2 Nonsexual offending history.

Male youth who have sexually offended tend to have nonsexual offences in their criminal history (Becker, 1998; Righthand & Welch, 2001, 2004; Veneziano & Veneziano, 2002). Becker et al. (1986b) reported that out of 22 male youth who had offended against a relative, 50% had nonsexual offences such as robbery, burglary, and/or trespassing in their criminal records. Similarly, Rasmussen (1999) found that out of 170 first-time juvenile male offenders adjudicated for a sexual offence, 46% had a history of nonsexual crimes in their criminal records. Långström and Lindblad (2000) also reported that 52% out of 56 sexually offending male youth had committed previous nonsexual offences. Together, these findings highlight the versatility of these young offenders and suggest that sexual violence may be part of a general pattern of delinquency for a significant proportion of youth who have committed sexual offences (Righthand & Welch, 2001, 2004).

2.1.1.3 Child abuse history.

Childhood abuse and neglect are significantly present in the personal histories of youth who have sexually offended (Bourgon & Morton-Bourgon, 2004; Kahn & Chambers, 1991; Knight & Prentky, 1993; Rasmussen, 1999; Righthand & Welch, 2001, 2004; Rojas & Gretton, 2007; Veneziano & Veneziano, 2002). Regarding sexual abuse, Becker and Hunter (1997) reported that 40% to 80% of male youth who sexually offend experienced sexual abuse as children. Although the prevalence of sexual abuse is high among this population, some studies have revealed that this form of abuse is not significantly higher relative to other juvenile offenders (e.g., Spaccarelli, Bowden, Coatsworth, & Kim, 1997). In a comparison between male juvenile sexual offenders and nonsexual offenders, Ford and Linney (1995) found that youth categorized as child molesters had a higher rate of sexual abuse in their histories than rapists and juvenile nonsexual offenders. This finding suggested that failure to consider the heterogeneity of

sexually offending youths might undermine significant differences between juvenile sexual offenders and nonsexual offenders.

Righthand and Welch (2001, 2004) noted that 25% to 50% of male youth who sexually offend experience physical abuse as children. Compared to other juvenile offenders and rapists, Ford and Linney (1995) found that juvenile child molesters experienced higher rates of physical abuse. Moreover, Kobayashi, Sales, Becker, Figueredo, and Kaplan (1995) found that paternal physical abuse increased sexual aggression among sexually offending male youth. Despite these findings, further research is necessary to determine whether physical abuse is more prominent among youth who sexually offend than other young offender groups, as well as to clarify the association between physical abuse and sexual offending behaviour.

The link between childhood abuse and sexual offending is complex. In a mixed sample of sexually abusive (n = 74) and nonabusive (n = 53) male youth, Burton (2008) found that self-reported physical and sexual abuse along with personality characteristics (i.e., Submissive and Forceful scales on the Millon Adolescent Clinical Inventory–MACI; Millon, 1993) significantly contributed to an etiological model of sexual offending behaviour based on the "victim-to-victimizer" hypothesis. The final model was able to classify correctly 75.6% of youths. Burton viewed these findings as supporting the etiological role of childhood sexual abuse (CSA) in sexual offending, but noted that it is unknown which factor (CSA or personality) exert initial changes and contribute to the development of sexual offending.

In another study, Johnson and Knight (2000) tested a developmental model of sexually coercive behaviours (e.g., using verbal threats, physical force, and/or intoxicating their victims to gain compliance) leading to victim penetration in a sample of 122 sexually offending male youth. Variables examined included childhood abuse, substance abuse, juvenile delinquency, and personality dimensions. Results from a path analysis revealed that childhood sexual abuse had a direct influence on sexual coercion (β = .20) and sexual compulsivity (β = .26). Sexual compulsivity indirectly predicted sexual coercion via its effects on misogynistic fantasies (β = .51). Physical abuse had no direct influence on sexual coercion, but directly affected other factors such as alcohol abuse (β = .26) and peer aggression (β = .19), and these factors in turn directly influenced sexual coercion or influenced other factors such as hypermasculinity that ultimately predicted sexual coercion. These findings highlighted the complex role of childhood abuse experiences in the etiology of sexual coercion, and uncovered that CSA significantly

discriminated between sexually offending youths who used varying degrees of coercion. However, these findings provided minimal insight on the mechanisms linking CSA to sexual offending.

Grabell and Knight (2009) examined the relationship between CSA and sexual fantasy at different developmental periods (0 to 3, 3 to 7, 7 to11, and 11 to17) in a sample of 193 sexually offending male youth. Researchers viewed sexual fantasy as a latent trait that predicts sexual coercion involving three components: sexual compulsivity (extent to which a person can control or inhibit sexual urges and behaviours), sexual preoccupation (extent to which a person thinks or fantasizes about sex), and hypersexuality (extent to which a person experiences sexual drive or engages in sexual activity). In sum, they found that CSA was a significant predictor of sexual fantasy in adolescence only in the 3 to7 developmental period, suggesting that ages 3 to 7 mark a sensitive period where CSA has the most detrimental consequences and puts the child at higher risk for sexual coercive behaviour in adolescence. This finding was consistent with knowledge about the importance of this developmental period and the nature of sexual fantasy. Specifically, ages 3 to 7 represent a critical period where advancement in the formation of cognitive and self-regulation (behaviour and emotion) skills are at its core; in addition, sexual fantasy has an impulsive nature, reflecting poor behavioural regulation. Importantly, this finding resolved discrepancies in the literature by highlighting that the timing of the abusive experience may moderate the relationship between CSA and sexual fantasy (Grabell & Knight, 2009).

Lastly, Mallie, Viljoen, Mordell, Spice, and Roesch (2011) conducted a meta-analysis of 11 studies involving 1,542 sexually offending youth to examine the relationship between childhood abuse (i.e., physical and sexual abuse) and recidivism. In brief, they found that history of sexual abuse had a small and significant association with sexual recidivism (overall r = .10, Odds Ratio = 1.51, k = 9). However, this finding was interpreted with caution because only two of the nine studies uncovered a significant association between both variables, the effect size for the association was small, the present research was correlational in nature, and most children who experience sexual abuse do not become perpetrators of sexual violence (Mallie et al., 2011). As a result, Mallie et al. concluded that sexual abuse may be a risk marker for sexual recidivism as opposed to a risk factor per se, and encouraged the examination of possible mechanisms that may explain this association.

2.1.1.4 Family environment.

Youth who have sexually offended tend to have a history of family instability and dysfunction (Awad, Saunders, & Levene, 1984; Graves, Openshaw, Ascione, & Ericksen, 1996; Kahn & Chambers, 1991; Långström & Lindblad, 2000; Righthand & Welch, 2001, 2004; Veneziano & Veneziano, 2002). In a qualitative review of empirical studies, Graves et al. (1996) found that the majority of sexually offending male youth (pedophilic, sexual assaulter, and mixed offenders) came from families that used a maladaptive interactional style, namely chaotic-rigid and disengaged-enmeshed families. In addition, these youth had a problematic family structure such as living in foster care and had parents with behavioural difficulties and/or mental health issues such as substance abuse. Consistent with the latter finding, Righthand and Welch (2001, 2004) noted that family criminality and psychopathology are prevalent in the families of male youth who sexually offend. In another study, Wieckowski, Hartsoe, Mayer, and Shortz (1998) found that, from a sample of 30 sexually offending male youth, 40% came from families that lacked boundaries, exerted minimal to no parental supervision, provided an inconsistent parenting style, and exhibited about parental role confusion.

Moreover, Långström and Lindblad (2000) reported that, out of 56 youth who have sexually offended, 54% experienced long-lasting separation from their biological parents and 29% came from an unsupportive and abusive family. Kahn and Chambers (1991) found that, from a sample of 221 sexually offending youth, 38% witnessed intimate partner violence. Wieckowski et al. (1998) reported a similar proportion of youths as victims of or witnesses of intimate partner violence (43%).

2.1.1.5 Social skills and relationships.

A consistent finding in the literature is that youth who have sexually offended have major deficits in social competence including poor social skills, poor peer relationships, and social isolation (Knight & Prentky, 1993; Righthand & Welch, 2001, 2004; Veneziano & Veneziano, 2002). Award, Saunders, and Levene (1984) compared the peer relationships of 24 male youth who sexually offend and 24 nonsexually offending male youth. The authors found that most youth had inadequate peer relationships though about 50% of sexually offending youth were viewed as loners compared to 17% of other delinquent youths. In another study, Långström and Lindblad (2000) created a social skills deficiency index based on four criteria: experience with a romantic partner, peer group membership, leisure time outside the home, and ‘significant’

relationship with an adult other than a parent. They reported that 61% of male youth who sexually offend met less than three criteria, and that a similar percentage of sexually and nonsexually offending youth were bullied.

When comparing the peer relationships of youth who sexually offend, nonsexual violent young offenders, and property offenders, Wijk, Horn, Bullens, Bijleveld, and Doreleijers (2005) found that male youth who sexually offend had significantly more problems in their contact with peers than the other groups of young offenders, particularly those who molested children. Similarly, Miner and Crimminns (1995) reported that male youth who sexually offend have fewer peer attachments than other delinquent and nondelinquent youths. The authors concluded that social isolation and poor social adjustment are key characteristics of youth who sexually offend, and suggested that promoting youths' potential for forming and maintaining positive attachments may decrease the likelihood of youth to engage in sexual abusive behaviour. Indeed, a recent meta-analysis uncovered that social isolation (as opposed to social skills deficits) play a role in understanding adolescent sexual offending (see Seto & Lalumière, 2010).

2.1.1.6 Academic achievement, school behavioural problems, and cognitive ability.

Studies indicate that youth who have sexually offended tend to experience problems in school, including disruptive behaviour, truancy, and/or learning difficulties (Kahn & Chambers, 1991; Långström & Lindblad, 2000; Righthand & Welch, 2001, 2004; Rojas & Gretton, 2007; Veneziano & Veneziano, 2002). For instance, in their sample of 221 male youth who sexually offended, Kahn and Chambers (1991) found that 53% had histories of disruptive behaviour at school, about 30% had a history of truancy, and 39% had a learning disability. Consistent with this finding, Rojas and Gretton (2007) found that 45% of their sample of sexually offending male youth had attended alternate school, 53% exhibited moderate to severe school behavioural problems, and 40% presented with evidence of a learning disability. From their sample of 56 youths who sexually offend, Långström and Lindblad (2000) found that 62% had a history of attention, concentration, or hyperactivity problems in school, 45% had language problems such as speech, reading, or writing problems, 64% received special educations classes, and 45% received below average grades in school.

Regarding intellectual ability, Awad et al. (1984) found that the average overall cognitive ability of their sexually offending male youth sample fell within the Low-Average range, as measured by the Wechsler Intelligence Scale for Children–Revised (WISC–R; Wechsler, 1974),

and that this was significantly lower than the average score for other delinquent male youths, which fell within the Average range. Awad and colleagues noted that the difference on intellectual ability rested on the significantly lower performance of sexually offending youths on the WISC-R nonverbal subtests, as well as on the greater proportion of sexual offending youths with IQ scores below 80 (24% vs. 8% for nonsexually offending youths). In another study, Awad and Saunders (1989) found that from their sample of 29 male youths categorized as child molesters, 24% obtained an average Full Scale IQ score that fell within the Low-Average range and 10% within the Borderline range. They found that the average Verbal IQ score was ten points lower than the average Performance IQ score; a pattern typically seen among delinquent youths and/or culturally disadvantaged populations (Awad & Saunders, 1989).

McCurry, McClellan, Adams, Norrei, Storck, Eisner, and Breiger (1998) reviewed the records of 200 male youth who had a serious mental illness and found that youths with lower IQ scores exhibited more inappropriate sexual behaviours (e.g., hypersexuality and exposing) than those with higher IQ scores. Moreover, when comparing the prevalence rates of Fetal Alcohol Spectrum Disorders (FASD) among Aboriginal and non-Aboriginal sexually offending youth, Rojas and Gretton (2007) found that Aboriginal male youth were approximately 6 times more likely than non-Aboriginal youth to present with evidence of FASD (29% vs. 5%, respectively). The prevalence of FASD among youths who sexually offend is important given that FASD is associated with various cognitive difficulties such as problems with abstraction and decision-making and poor adaptive behaviour in adolescence (Boland, Duwyn, & Serin, 2000; O'Leary, 2004), and is associated with a lifetime prevalence of negative outcomes including inappropriate sexual behaviours (Streissguth, Bookstein, Barr, Sampson, O'Malley, & Young, 2004).

Veneziano and Veneziano (2002) reported that studies have found high rates of neuropsychological impairment among sexually offending and nonsexually offending male youth. Specifically, deficits in executive functions (i.e., planning and behavioural control) and verbal skills appear to be two primary areas of impairment. McCurry et al. (1998) stated that impairments in verbal cognitive functioning, manifested by high rates of impulsivity and poor judgment, could increase the likelihood of inappropriate sexual behaviour among a subgroup of youths. Although recent meta-analytic findings have revealed that overall cognitive ability does not play a significant role in understanding adolescent sexual offending (see Seto & Lalumière, 2010), the above findings indicate that differences in intellectual and/or cognitive abilities may

require attention to maximize treatment benefit among male youth who sexually offend (Righthand & Welch, 2001, 2004).

2.1.1.7 Sexual experiences, behaviours, and interests

Youth who have sexually offended typically have had prior consensual sexual interactions (Righthand & Welch, 2001, 2004). Becker et al. (1986a) reported that the majority of sexually offending male youth had knowledge about sexuality and obtained such information from multiple sources including family, friends, media, and personal experience. Out of their sample of 67 sexually offending male youth, 82% engaged in nondeviant nongenital sexual behaviours and 58% engaged in nondeviant genital sexual behaviours, with most youths reporting sexual experiences starting at age 11. In another study, Becker et al. (1986b) found that 95% of sexually offending male youth had a prior nondeviant nongenital sexual experience at an average age of 10.3 years (ages ranged from 7 to 15).

There is also evidence that male youth who sexually offended exhibit signals of deviant sexual behaviour prior to the onset of adolescence. In a sample of 30 male youth adjudicated for sexual offences, Wieckowski et al. (1998) found that 97% of male youth were exposed to pornographic material at an early age (M = 7.7 years). Most youth started having deviant sexual fantasies in childhood (M = 9.2 years), with 53% masturbating to such fantasies subsequently after that age. Eighty-seven percent of youths began committing noncontact sexual offences in childhood (M = 9.3 years) such as frotteurism (70%), voyeurism (63%), exhibitionism (46%), obscene phone calls (17%, and bestiality (6%), prior to committing contact sexual offences (M = 10.1 years). Although deviant sexual behaviours were presented in childhood for some youth, they encountered the legal system at an average age of 13.9 years; by this time, youths had committed a median of 69.5 sexual offences against a median of 16.5 victims. Moreover, research suggests that deviant sexual arousal plays a relevant role among male youth who sexually offended against children, particularly male children (Hunter & Becker, 1994). Together, these findings suggest that some youths begin to develop a pattern of deviant sexual behaviour in childhood. Once detected by the legal system, these youths have accumulated a large number of offences against multiple victims.

Most male youth who have sexually offended do not report or exhibit primarily deviant sexual interests; instead, they are interested in consensual same-age peers (Worling, 2006, 2012). Studies show that 25% to 36% of male youth who have sexually offended present with deviant

sexual interests as measured via self-report or phallometric assessment (Worling, 2006). Therefore, deviant sexual interests appear to play a critical role in the etiology and/or maintenance of sexual offending behaviour for a *subset* of male youth who have sexually offended, and other factors such as intimacy deficits and antisociality may be more or equally relevant for understanding the development and/or maintenance of sexual offending behaviour (Worling, 2006, 2012).

The assessment of deviant sexual interests and arousal in younger populations is a challenging task. Worling (2006) stressed that, during adolescence, the development and refinement of sexual scripts, identities, and preferences is an ongoing process. Focusing on findings from studies using phallometric assessment to assess deviant sexual arousal, Hunter and Becker (1994) noted that there is more fluidity in the sexual interests and arousal patterns of male adolescents compared to male adults, which cautions against interpretations of stability and validity of deviant sexual interests among youth as assessed by phallometry (see Bancroft, 2006; Worling, 2012). In light of these developmental considerations, it is not surprising that studies on the use of phallometric assessment with sexually offending male youth have provided limited evidence for its reliability and validity (Worling, 2006). Research to date indicates that phallometric assessment might be more useful with older male adolescents who have targeted male children and who admit to their sexual offending behaviour (see Becker & Harris, 2004, for a review of the research on physiological assessment techniques with youth who have sexually offended).

2.1.1.8 Mental health issues

According to Righthand and Welch (2001, 2004), studies show great variability on the number of youth who have sexually offended and who exhibit mental health symptomatology. For instance, in a sample of 29 sexually offending youth, Awad and Saunders (1989) found that a third of their male sample suffered from emotional problems, 87% had a diagnosable mental disorder, and 45% exhibited antisocial behaviours (e.g., stealing, physical aggression). In addition, about a third of the sample received outpatient psychiatric treatment. Compared to sexually offending male youth without a history of antisocial behavior and to other delinquents, youth with a history of antisocial behaviour were more likely to exhibit symptoms of psychopathology.

Similarly, Becker et al. (1986b) reported that 74% of their sexually offending male youth sample had some type of psychiatric diagnosis, with the majority of youths presenting with conduct disorder. In a study of 56 youth who had sexually offended, Långström and Lindblad (2000) found that 75% of the male sample had a diagnosable personality disorder, 46% showed signs of conduct disorder, and 18% received a diagnosis of substance abuse or dependence. Moreover, Becker, Kaplan, Tenke, and Tartaglini (1991) reported that out of 246 male youth who committed sexual offences, 43% showed symptoms of moderate or severe depression. Youths with a history of abuse (physical or sexual) were also more likely to show symptoms of depression than those without an abusive history. Other studies revealed that a significant proportion of sexually offending male youth struggle with substance abuse problems (e.g., Kahn & Chambers, 1991; Rojas & Gretton, 2007).

Overall, these studies highlight the variability and complexity in the mental health profiles of sexually offending male youth, with conduct disorder symptoms and antisocial behaviour being prevalent among this population. Regardless of the specific mental health issue present, these studies stress the importance of assessing the mental health needs of sexually offending youth (Righthand & Welch, 2001, 2004).

2.1.2 Risk Factors for Recidivism Among Youth Who Have Sexually Offended

Literature on the characteristics of youth who sexually offend provides an insight on the multiple issues facing these youth and sheds light on potential factors associated with criminal recidivism. This section begins by examining key issues necessary to understand the limitations and challenges faced when attempting to identify risk factors among sexually offending youth. Next, a list of factors considered relevant to the prediction of sexual recidivism will be presented.

2.1.2.1 Issues concerning the identification of risk factors and prediction of recidivism.

2.1.2.1.1 (In)stability of antisocial behaviour.

Most youth engage in some form of antisocial and/or delinquent behaviour during childhood or adolescence, but most of them do not persist and become permanent danger to society (Stouthamer-Loeber, Loeber, Wei, Farrington, & Wikström, 2002). Moffitt (1993) examined the relationship between age and antisocial behaviour and proposed that adolescents engaging in delinquent acts can be distinguished into two distinct categories of individuals. The first type of antisocial behaviour is “life-course persistent” (LCP). Adolescents following the

LCP pathway have an early childhood onset of antisocial behaviour. These adolescents have neuropsychological problems that interact with their adverse environments across development, leading to the formation of a pathological personality and antisocial behaviour that is persistent and stable. The stability of antisocial behaviour is present among a relatively small number of adolescents, primarily males, whose behavioural problems can be extreme. The second type of antisocial behaviour is "adolescence limited" (AL). Adolescents in the AL pathway engage in antisocial behaviour that is temporary and situational. This type of antisocial behaviour is common and limited to the adolescent period. Both males and females can engage in this form of antisocial behaviour and it is said to emerge in the context of peer relationships (Moffit, 1993).

Moffitt's (1993) dual taxonomy raises two issues regarding the assessment of risk for future violence. First, this theory highlights the instability of antisocial behaviour in adolescents, bringing into question the precision of long-term prediction of violence. Second, given the normative nature of some forms of antisocial behaviours and/or delinquent acts during adolescence, Moffitt's theory suggests that the assessment of violence risk among youths requires consideration of their developmental context. Adolescents experience various changes and challenges throughout adolescence that interact with their environment and influence their adjustment. Furthermore, certain traits, symptoms, and/or disorders present themselves differently depending on the developmental stage of youths; therefore, adolescents are seen as "moving targets," that require ongoing evaluation as opposed to single-point observations (Borum, 2000).

Focusing on the continuation of sexual offending behaviour from adolescence to adulthood, Sipe, Jensen, and Everett (1998) compared the recidivism rates of 124 male youth adjudicated for sexual offences against children and 132 nonsexually offending male youth for an average follow-up period of six years. Sipe and colleagues found that sexually offending youth were more likely to be arrested for sexual offences as adults than nonsexually offending youth (10% vs. 3%, respectively). Brannon and Troyer (1995) also examined the adult recidivism rates of 36 male adolescents charged with a sexual-related offence and released from a residential treatment program. Over a period of four years, only 3% entered the adult correctional system for a sexual conviction. Together, these results suggest that youth detected by the legal system for committing sexual offences may not continue offending sexually.

Contrary to the above findings, Rubinstein, Yeager, Goodstein, and Lewis (1993) investigated the adult recidivism rates of 19 male juveniles who committed sexual assault and 58 juveniles who committed nonsexual violent offences. Over an 8-year follow-up period, Rubinstein and colleagues found that 37% of sexually offending juveniles had one or more sexual offences in their adult criminal records, whereas only 10% of the comparison group had an adult record for a sexual offence. Only individuals identified as sexually assaultive as juveniles committed multiple sexual offences as adults. Rubinstein et al. stated that sexually assaultive juveniles were at a significantly higher-risk for sexual recidivism than other violent juveniles. However, Sipe et al. (1998) identified factors that may contribute to the disparity in adult recidivism rates found in sexually offending youth including type of referral offence, variations in length of follow-up and methodological design.

Worling and Långström (2006) identified five possible trajectories for sexually offending male youth. First, a group of sexually offending youth stop offending without any form of intervention. Second, some sexually offending youth evade detection and continue to offend sexually in adulthood. Third, there are sexually offending youth who cease offending only after coming into contact with authorities. The label of "sexual offender" could trigger shame and/or embarrassment for these youth, which could lead to the termination of the offending behaviour. Fourth, there are sexually offending youth who cease offending only after detection and treatment; while other youth persist to offend despite such forms of intervention. These proposed developmental outcomes highlight the extent individual and environmental factors interact and lead to multiple trajectories for sexually offending youths.

Overall, research indicates that most youth desist from engaging in sexual offending and do not continue offending sexually into adulthood. This finding is consistent with Moffitt's (1993) AL pathway of antisocial behaviour. It appears that, once sexually offending youth encounter authorities and receive treatment, most of them may not continue to present as high-risk for sexual recidivism. Nonetheless, consistent with Worling and Långström's (2006) proposed developmental trajectories for sexually offending youth, there is a group of youth that will persist offending into adulthood despite legal and/or mental health intervention. Consequently, it is important to identify these youths along with factors that serve to maintain their sexual offending behaviour.

2.1.2.1.2 Base rates of sexual recidivism.

Borum (2000) noted that, when estimating the probability of a specific behaviour, it is important for clinicians to use base rates as anchors for their decision. Within the context of violence risk assessment, the term base rate refers to the "known prevalence of a specified type of violent behaviour within a given population over a given period of time" (Borum, 2000, p. 1275). Nonetheless, it is difficult to determine the prevalence of sexual offending because official crime statistics only provide conservative estimates thus such data do not reflect the true incidence of sexual offending (Worling & Långström, 2006; see Scope of the Problem for a discussion on the limitations of crime statistics).

Inconsistencies in the definition of recidivism can further affect the estimates of recidivism. Worling and Långström (2006) reviewed 22 published follow-up studies of youth who sexually offend and reported that sexual recidivism rates ranged from 0% to about 40%. When investigators used charges as an estimate of recidivism, the average reported sexual assault recidivism rate was 15% and when investigators used conservative estimates such as convictions, adult-only charges, court records, or self-report, the average reported sexual recidivism rate was 14%. Although this difference was not statistically significant, Worling and Långström (2006) noted that, when examining the average rate for any criminal (including sexual) recidivism, investigators using charges found a significantly higher rate of criminal recidivism than those using more conservative measures (54% vs. 42%, respectively).

Variations in length of follow-up also lead to different rates of sexual recidivism. For instance, Worling and Långström (2006) found a significant linear relationship between length of follow-up and sexual recidivism rate among youth, with average follow-periods ranging from six months to nine years. Gerhold et al. (2007) conducted a systematic review of 12 recidivism studies and reported that the overall average follow-up period was five years and six months, ranging from one to ten years. Gerhold and colleagues found an average sexual recidivism rate of 14%. These investigators calculated the average sexual recidivism rate at three different follow-up periods and found that the average sexual recidivism rate increased with longer follow-up periods (5% in less than three years, 7% in three to six years, and 28% in at least seven years).

In an eight-year retrospective follow-up study, Hagan, Gust-Brey, Cho, and Dow (2001) compared the sexual recidivism rates, as measured by convictions, of 150 adolescents categorized as child molesters, rapists, and nonsexual offenders. Compared to nonsexual

offenders, sexual offenders were more likely to reoffend sexually, with no significant differences between child molesters and rapists (20% vs. 16%, respectively). In another retrospective study of 50 youths categorized as child molesters, Hagan, King, and Patros (1994) reported a sexual recidivism rate of 8% two years after completing specialized treatment. Hagan and Gust-Brey (1999) examined the recidivism rates of 50 adolescent perpetrators of rape who had completed sex offender treatment. They found that when the length of follow-up increased from five to ten years, the sexual recidivism rate doubled from 8% to 16%.

Together, these results indicate that even when using the more stringent outcome criterion of reconviction, longer follow-up periods increase the probability of detecting higher rates of sexual recidivism. Of note, the sexual recidivism rate with short follow-up periods (less than five years) can be too low as to make the identification of risk and/or protective factors for sexual recidivism unattainable. Therefore, longer follow-up periods increase the opportunity for an infrequent event such as sexual recidivism to occur (see Table 2.1 for a list of recidivism studies on youth who have sexually offended).

Table 2.1

Recidivism Rates for Youth Who Have Sexually Offended

Study	Sample	Follow-up Period	Recidivism Measure	Recidivism	
				Sexual	Other
1. Borduin, Henggeler, Blaske, & Stein (1990)	MST: 8 YSO IT: 8 YSO (*M* = 14 yrs)	*M* = 3 yrs.	arrests	MST: 12.5% (1/8) IT: 75% (6/8)	Nonsexual: MST: 25% (2/8) IT: 50% (4/8)
2. Borduin, Schaeffer, & Heiblum (2009)	MST: 24 YSO UCS: 24 YSO (*M* = 14 yrs)	7.3-10.6 yrs. (*M* = 8.9 yrs)	adult arrests	MST: 8.3% (2/24) UCS:45.8% (11/24)	Any: MST: 29.2% (7/24) UCS: 75% (18/24) Nonsexual: MST: 29.2% (7/24) UCS: 58.3% (14/24)
3. Brannon & Troyer (1995)	36 YSO 14-19 yrs.	4 yrs.	convictions	2.8% (1/36)	General: 16.6% (6/36)
4. Gretton, Catchpole, McBride, Hare, O'Shaughnessy, & Regan (2005)	253 YSO (*M* = 15 yrs)	56-166 mo *M* = 112 mo	charges and convictions	17% (43/253)	Any: 61% (154/253) Violent: 30% (76/253) Nonviolent: 51% (129/253)
5. Gretton, McBride, Hare, O'Shaughnessy, & Kumka (2001)	220 YSO 12-18 yrs. (*M* = 14.7 yrs)	7-106 mo *M* = 55 mo	charges and convictions	15% (33/220)	General: 51% (112/220) Violent: 30% (66/220)
6. Hagan, Gust-Brey, Cho, & Dow (2001)*	50 child molesters 50 rapists 50 nonsexual offenders 12-19 yrs.	8 yrs.	convictions	18% (18/100) C: 10% (5/50)	Unspecified
7. Hagan & Gust-Brey (1999)	50 rapists 12-19 yrs.	10 yrs.	convictions	5-yrs post-discharge 8% (4/50) 10-yrs post-discharge 16% (8/50)	Any: 5-yrs post-discharge 74% (37/50) 10-yrs post-discharge 90% (45/50)

Study	Sample	Follow-up Period	Recidivism Measure	Recidivism	
				Sexual	Other
8. Hagan, King, & Patros (1994)	50 child molesters	2 yrs.	convictions	8% (4/50)	Nonsexual: 38% (19/50)
9. Kahn & Chambers (1991)	221 YSO 8-18 yrs (*Mdn* = 14.7)	*M* = 20.4 mo	convictions	7.5% (16/221)	Any: 44.8% (99/221)
10. Lab, Shields, & Schondel (1993)	Tx: 46 YSO C: 109 YSO (*M* = 14yrs)	1-3 yrs.	court records	Tx: 2.2% (1/46) C: 3.7% (4/109)	Any: Tx: 23.9% (11/46) C: 16.5% (18/109)
11. Långström (2002)	126 YSO 15-20 yrs (*M* = 18.1)	.03-228 mo *M* = 115 mo	convictions	29.9% (35/117)	Nonsexual violent: 41.9% (49/117) Any: 78.6% (92/117)
12. Långström & Grann (2000)	46 YSO 15-20 yrs (*M* = 18.1)	*M* = 60.95 mo	convictions	19.6% (9/46)	Any: 65.2% (30/46)
13. Miner (2002)	86 YSO 14-19 yrs (*M* = 17.2)	Few mo-6.5 yrs (*M* = 4.3 yrs)	arrests/ convictions/ parole violations	8.1% (7/86)	Any: 54.7% (47/86) General: 46.5% (40/86)
14. Parks & Bard (2006)	74 child molesters 51 rapists 31 mixed YSO 12-17 yrs (*M* = 14.86)	4-62 mo (*M* = 23.5 mo)	juvenile and adult convictions	6.4% (10/156)	Nonsexual: 30.1% (47/156)
15. Rasmussen (1999)	170 YSO 7-18 yrs (*M* = 14)	5 yrs.	juvenile convictions	14.1% (24/170)	General: 58.8% (100/170) Nonsexual: 54.1% (92/170)
16. Rubinstein, Yeager, Goodstein, & Lewis (1993)	19 YSO 58 violent youth (comparison) *M* = 15 yrs.	8 yrs.	adult arrests	YSO: 36.8% (7/19) C: 10.3% (6/58)	Violent: YSO: 89.5% (17/19) C: 69% (40/58)
17. Schram, Milloy, & Rowe (1991)	197 YSO 8-18 yrs (*M* = 14.5)	5 yrs. Mdn = 6.2 yrs.	juvenile and adult arrests and convictions	12.2% (24/197)	Nonsexual: 50.8% (100/197)

Study	Sample	Follow-up Period	Recidivism Measure	Recidivism	
				Sexual	Other
18. Sipe, Jensen, & Everett (1998)	124 YSO 11-18 yrs. 132 nonsexual offenders (comparison) 12-18 yrs.	*M* = 6 yrs.	adult arrests	YSO: 9.7% (12/124) C: 3% (4/132)	Any: YSO: 32.3% (40/124) C: 43.9% (58/132) Violent: YSO: 5.6% (7/124) C: 12.1% (16/132)
19. Smith & Monastersky (1986)	112 YSO 10-16 yrs (*M* = 14.1)	17-49 mo *M* = 28.9 mo	charges	14.3% (16/112)	Nonsexual: 34.8% (39/112)
20. Worling (2001)	112 YSO 12-19 yrs (*M* = 15.6)	2-10 yrs (*M* = 6.2 yrs)	juvenile and adult arrests and convictions	11.3% (11/97)	Any: 46.4% (45/97)
21. Worling & Curwen (2000)	58 YSO (treatment) 90 YSO (comparison) 12-19 yrs (*M* = 15.5)	2-10 yrs. (*M* = 6.23 yrs)	juvenile and adult charges	Tx: 5.2% (3/58) C: 17.8% (16/90)	Any: Tx: 34.5% (20/58) C: 54.4% (49/90) Nonsexual violent: Tx: 18.9% (11/58) C: 32.2% (29/90)

Note. *M* = Mean; *Mdn* = Median; IT = Individual therapy; MST = Multisystemic therapy; UCS = Usual community services; YSO = Youth who have sexually offended; Tx = Treatment; C = Comparison

2.1.2.1.3 Specialized and versatile sexually offending youths.

Numerous studies have uncovered that sexual recidivism rates are low and dependent on the length of follow-up, but also that most sexually offending male youth who reoffend commit nonsexual as opposed to sexual offences (e.g., Brannon & Troyer, 1995; Gretton et al., 2001; Hagan et al., 2001; Hagan et al., 1994; Sipe et al., 1998). For example, Brannon and Troyer (1995) noted that, from 17% of their sexually offending male youth sample who received adult charges, most youths received charges for property crimes such as burglary and theft. Sipe et al. (1998) found that 37% of their male juvenile sex offender sample obtained a charge for

nonsexual offences as adults (vs. 10% for a sexual offence). With an average of 55 months following the end of an outpatient treatment program, Gretton et al. (2001) reported that 15% out of 220 adolescents adjudicated for committing sexual offences reoffended sexually while 30% reoffended violently.

After a 10-year follow-up period, Hagan and Gust-Brey (1999) found that out of 50 youth perpetrators of rape, 74% committed nonsexual offences as adults. From a sample of 50 adolescent perpetrators of sexual assault against children, 38% obtained a reconviction for nonsexual offences, particularly property crimes (Hagan et al., 1994). Based on their review of 12 recidivism studies, Gerhold et al. (2007) found that the average rate for general recidivism was as high as 44%. Efta-Breitbach and Freeman (2004) noted that for follow-up periods up to ten years, nonsexual recidivism rates range from 35% to 90%. More recently, Carpentier and Proulx (2011) examined the recidivism rates of 351 adolescent males who had sexually offended over an average 8-year follow-up period. In brief, 45% of youth were charged with a new offence during the follow-up period while only 10% received at least a new sexual offence charge. Approximately 50% of recidivists reoffended within the first two years of follow-up, with 75% of the total sample of recidivists reoffending after four years of follow-up. This finding suggests that time after initial assessment is a high-risk period for reoffending among sexually offending youth (Carpentier & Proulx, 2011). Together, these findings indicate that, when focusing on recidivists, the majority of sexually offending youth are versatile offenders where sexual offending is part of a general pattern of criminal behaviour, with few youth specializing in sexual offending.

At the same time, the above studies uncovered a subgroup of sexually offending youth that continue to commit sexual offences. Hagan et al. (1994) reported that some studies revealed that the nature of youth's sexual re-offences follows a similar pattern to their referral offences. Thus, there are some youth who sexually offend that are specialized offenders and continue to be at high-risk for sexual violence during adolescence and may continue offending into adulthood, fitting Moffitt's (1993) LCP pathway of antisocial behaviour.

Given the versatility of many sexually offending youth, one would expect a certain degree of overlap in risk factors associated with sexual and nonsexual types of recidivism. The predictive ability of factors unique to sexual recidivism could be undermined if the majority of sexually offending youth are versatile offenders and only as a subsample are specialized

offenders. Indeed, Seto and Lalumière (2010) found that male youth who have sexually offended and other male young offenders did not significantly differ in variables tapping antisocial personality traits, antisocial cognitions, early conduct problems, and social skills deficits among other potential risk factors for violence. Some exceptions included peer delinquency, substance abuse, and criminal history; these risk factors were more prominent among young offenders than sexually offending youth. At the same time, sexually offending youth were more likely to have a history of childhood abuse and deviant sexual interests (e.g., sexual fantasies involving children), and have experienced early exposure to pornography compared to nonsexually offending youth. Altogether, these findings provided preliminary empirical evidence for the generalist/versatile versus specialist offender typology (Seto & Lalumière, 2010; see Butler & Seto, 2002; France & Hudson, 1993). Lastly, differences in offending pathways might contribute to the low rates of sexual recidivism, posing an additional challenge for investigators attempting to identify factors associated with this type criminal outcome.

2.1.2.2 Risk factors for sexual recidivism.

Researchers have identified a number of risk and protective factors for violence and aggression among adolescents (e.g., Borum, 2000; Lipsey & Derzon, 1998; Stouthamer-Loeber et al., 2002). Compared to this body of literature, research identifying risk factors associated with sexual recidivism is in its infancy. There are methodological issues (e.g., low base rates of sexual recidivism, short follow-up periods, small sample sizes, vague and/or absent operational definitions of measured risk factors, and inconsistency in risk factors selected for empirical examination) that negatively affect the quality of some the published research (Spice, Viljoen, Latzman, Scalora, & Ullman, 2012). Furthermore, disparities in research findings and limited empirical evidence supporting specific factors have made the identification of risk factors a challenging task (Efta-Breitbach & Freeman, 2004). Notwithstanding these limitations, a growing body of research has identified several risk factors for sexual and nonsexual recidivism among sexually offending youth (e.g., Kahn & Chambers, 1991; Kenny et al., 2001; Långström, 2002; Långström & Grann, 2000; McCann & Lussier, 2008; Miner, 2002; Parks & Bard, 2006; Rasmussen, 1999; Schram, Milloy, & Rowe, 1991).

Worling and Långström (2003, 2006) reviewed published literature to identify factors associated with sexual recidivism among youth who have sexually offended. They categorized risk factors as *empirically supported*, *promising*, *possible*, and *unlikely*. Risk factors defined as

e*mpirically supported* had at least two independent studies with sexually abusive youth supporting their association with sexual recidivism, had no published studies with contradictory evidence, and received expert support by being included in clinical checklists and/or guidelines used to assess risk for sexual recidivism among youth. *Promising* risk factors had support from one published study and formed part of clinical checklists and guidelines developed for use with sexually offending youth. *Possible* risk factors were included in published clinical checklists and guidelines, but had either contradictory or limited empirical evidence supporting their association with sexual recidivism among sexually offending youth. Lastly, *unlikely* risk factors had no or contradictory empirical evidence supporting their association with sexual recidivism.

Worling and Långström's (2003, 2006) classification system was used as a guideline to categorize risk factors for sexual recidivism. Modifications made to the system were based on recent empirical evidence (i.e., studies on predictors of adolescent sexual recidivism) supporting the inclusion or exclusion of a risk factors. Similarly, risk factors were classified as *empirically supported*, *promising*, and *possible*. *Empirically supported* risk factors had at least three independent studies supporting their association with sexual recidivism and an absence of contradictory evidence, and were included in specialized risk assessment measures such as the J-SOAP-II, ERASOR, and J-SORRAT-II. *Promising* risk factors had at least three independent studies supporting their association with sexual recidivism and minimal contradictory evidence (up to two studies), and were included in specialized risk assessment measures. *Possible* risk factors had at least two studies supporting their association with sexual recidivism, but some contradictory evidence (at least three studies), or had only one published study supporting its association with sexual recidivism and were included in specialized risk assessment measures. Study findings on predictors of recidivism among sexually offending adults and juvenile offenders (including those committing sexual offences) were included to provide additional support for the inclusion of some risk factors when deemed appropriate (see Table 2.2 for a summary of risk factors for sexual recidivism among male youth who have sexually offended).

2.1.2.2.1 Empirically supported risk factors.

RF1 Deviant sexual interests.

According to Worling and Långström (2003, 2006), youth who sexually offend and who have deviant sexual interests in prepubescent children and/or sexual violence are at higher risk for sexual recidivism. In a postdictive study, Kenny et al. (2001) examined the association of

deviant sexual experiences and fantasies with sexual recidivism in a mixed sample of 70 adolescents charged with sexual offending. The operational definition of d*eviant sexual experiences* included items such as CSA, exposure to models of sexual coercion, experience with nonconsenting sex, and exposure to pornography and/or sexually violent material. The operational definition of *deviant sexual fantasies* included images of nonconsensual sex and sexual violence, physical violence and victim denigration during the offence, and self-reports of deviant sexual interests. Compared to first time offenders, recidivists were more likely to have some form of deviant sexual experience (40% vs. 68%, respectively) and to have experienced deviant sexual fantasies as a major feature of their offence (29% vs. 61%, respectively). Both deviant sexual experiences and deviant sexual fantasies were positively associated with sexual recidivism. Results from a path analysis revealed a direct causal relationship between deviant sexual fantasies and sexual recidivism (β = .33). Deviant sexual experience had an indirect causal relationship with sexual recidivism that was mediated by deviant sexual fantasies (β = .29) and cognitive distortions (β = .38).

Schram et al. (1991) conducted a five-year follow-up study of 197 sexually offending juveniles who participated in treatment. Compared to non-recidivists and nonsexual recidivists combined, sexual recidivists were more likely to exhibit, or possibly exhibit, deviant sexual arousal patterns based on therapists' assessments (64% vs. 93%, respectively). Unfortunately, Schram and colleagues did not specify the criteria used by therapists to determine the presence of "deviant sexual arousal." Kahn and Chambers (1991) also found that sexually offending youth judged by therapists to have deviant sexual arousal patterns reoffended sexually at a greater rate than those without such patterns (12% vs. 6%, respectively) though this difference was not statistical significant.

In another study, Worling and Curwen (2000) examined the association of multiple variables and sexual recidivism in a sample of 148 sexually offending youth (*M* follow-up time = 6.2 years. They found Child Molest Total scores to be positively and significantly associated with sexual recidivism (r = .21). That is, adolescents charged with another sexual offence were more likely to report past and/or present deviant sexual fantasies of children, child-grooming behaviours, and/or intrusive offending behaviours toward children.

Spice, Viljoen, Elkovitch, Scalora, Ullman, and Lagerstrom (2009) examined the association of multiple risk factors with sexual aggression during treatment, criminal history, and

sexual recidivism in a sample of 169 sexually offending youth. Spice and colleagues reported that obsessive sexual interests, as measured by a risk assessment tool, was significantly associated with repeat offending (r_{pb} = .30) and predicted sexual aggression during treatment (r_{pb} = .17). There is a conceptual difference between obsessive sexual interests and deviant sexual interests; specifically, *obsessive sexual interests* describe the unusual frequency of thoughts and/or behaviours such as masturbation, sexual thoughts, and pornography use (Worling & Curwen, 2001) that may include elements of sexual deviance such as sexual fantasies involving children and/or sexual violence.

In a recent meta-analysis of 18 studies, McCann and Lussier (2008) investigated the association of antisociality, sexual deviancy, and sexual recidivism. They considered the following risk factors to form the construct of "sexual deviancy:" prior sexual offences, young age at intake, age at first sex crime, total number of victims, child/adult victim, stranger victim, and deviant sexual arousal. They noted that their conceptualization of sexual deviancy was consistent with Hanson and Bussière's (1998) operational definition of the same construct, except for the inclusion of early age of onset. Overall, the domain of sexual deviancy was significantly related to sexual recidivism; that is, juveniles exhibiting characteristics of sexual deviance were more likely to reoffend sexually (mean effect size or *ES* = .11, *ES* range = .02-.24, *n* = 1569, *k* = 8). Although the strength of the mean *ES* was low, individual effect sizes were homogenous. The present result was consistent with those from a previous meta-analysis on adolescent sexual recidivism (Hanson & Morton-Bourgon, 2005) though the strength of the *ES* was higher in the latter study (Cohen's *d* = .36, CI = +/- .24, *n* = 734, *k* = 7).

Although Gretton et al. (2001) did not find a significant association between deviant sexual arousal, as measured by the penile plethysmograph or PPG, and sexual recidivism, a more recent study on the predictive validity of the PPG among sexually offending youth revealed that post-treatment arousal to children and inability to suppress such deviant arousal was significantly associated with sexual reoffending (Clift, Rajlic, & Gretton, 2009). Clift and colleagues stated that post-treatment deviant arousal and lack of suppression are associated with a higher risk subgroup of sexually offending youth who continue to experience sexual arousal to children and do not suppress it despite intervention, and that for this youth such deviant pattern may have stabilized throughout their development. Lastly, authors of clinical checklists and guidelines

developed to assess risk for sexual recidivism among youth tend to include deviant sexual interests as a risk factor (Worling & Långström, 2003, 2006).

Studies on adults who have sexually offended have consistently reported deviant sexual interests to be a strong predictor of sexual recidivism. For instance, Hanson and Bussière (1998) conducted a meta-analysis of 61 recidivism studies with more than 23,393 adult sex offenders, and found sexual interest in children, as measured by phallometry, to be the single strongest predictor of sexual recidivism (weighted average or r_+ = .32, CI = +/-.03, n = 4,853, k = 7). Similarly, Hanson and Morton-Bourgon (2005) meta-analysis of 82 recidivism studies with 29,450 adult sex offenders revealed that sexual deviancy was one of two major predictors of sexual recidivism (Cohen's d = .30, CI = +/- .08, n = 5,053, k = 32). Lastly, in a sample of 111 extrafamilial male child molesters, Prentky, Knight, and Lee (1997) reported that sexual preoccupation with children (r = .41) and paraphilias (r = .53) were significant predictors of sexual recidivism. That is, sexual recidivists were significantly more fixated on children and had more paraphilias compared to non-recidivists.

RF2 History of prior sexual offences.

Consistent with the view that past behaviour is the best predictor of future behaviour, adolescents with a history of previous sexual offences are at a higher risk for sexual recidivism (Gerhold et al., 2007; Worling & Långström, 2003, 2006). For instance, Schram et al. (1991) found prior sexual offence conviction to be significantly associated with sexual recidivism; that is, juvenile sexual recidivists were more likely to have at least one prior sex offence in their records compared to nonsexual recidivists and nonrecidivists combined (17% vs. 5%, respectively). Långström and Grann (2000) conducted a retrospective follow-up study with 46 sexually offending youth and an average time at risk of five years. They found that youths with any previous sex offending behaviour (e.g., convictions) were about 3.67 times more likely to reoffend sexually than youths without such history. Extending their previous investigation, Långström (2002) added a new cohort of sexually offending youth to the original sample (N = 117) and extended the follow-up period (M time at risk = nine years), to investigate risk factors associated with sexual recidivism. Consistent with the previous finding, any past sex offending behaviour, with or without convictions, was significantly associated with any sexual reconviction (r = .22, risk ratio or e^B = 2.11). Spice et al. (2009) did not find a significant association between

prior sanctions for sexual assaults and sexual recidivism though it was significantly associated with repeat offending (r_{pb} = .26).

McCann and Lussier's (2008) meta-analysis supported the findings of individual studies. Specifically, they identified having previous sexual offences to be a significant predictor of sexual recidivism (mean *ES* = .11, *n* = 647, *k* = 4). Moreover, several clinical checklists and guidelines include prior sexual offending as a risk factor for sexually offending youth (Worling & Långström, 2003, 2006).

Studies on adults who have sexually offended have also found history of prior sex offences to be a significant predictor of sexual recidivism. For example, Hanson and Bussière (1998) reported a significant relationship between prior sex offences and sexual recidivism (mean r_+ = .19, CI = +/-.02, *n* = 11,294, *k* = 29). Prentky et al. (1997) found prior sex offences to discriminate significantly between sexual recidivists and non-recidivists, with recidivists having a greater number of prior sex offences (*r* = .65). They found that fixation, paraphilias, and number of prior sex offences correctly classified 73% of the cases as recidivists. Lastly, Hanson and Harris (2000a) compared 208 sexual recidivists and 201 non-recidivists on various risk factors and found that 38% of offenders who sexually reoffended had juvenile sex offences compared to 22% of non-recidivists.

RF3 Stranger victim.

Youth who sexually offend against strangers are at greater risk for sexual reoffending (Gerhold et al., 2007; Worling & Långström, 2003, 2006). Smith and Monastersky (1986) followed-up a sample of 112 sexually offending juveniles for an average of 28.9 months. They found a marginal association between the variable *relationship to victim* and sexual reoffending. That is, juveniles who targeted strangers in their referral offences were more likely to reoffend sexually than those who victimized relatives or acquaintances. Although Långström and Grann (2000) did not find that sexually offending against a stranger in the index offence was predictive of sexual reoffending (e^B = 2.84), Långström (2002) found the variable *Any stranger victim* to be significantly and positively associated with any sexual reconviction (*r* = .34) and number of sexual reconvictions (*r* = .29). In the latter study, youth who sexually offended against a stranger were about 4.08 times more likely to reoffend sexually than those who did not have any stranger victims. McCann and Lussier (2008) found that juveniles who targeted strangers were significantly more likely to reoffend sexually (mean *ES* = .28, *n* = 302, *k* = 3). Lastly, Carpentier

& Proulx (2011) found sexual offending against a stranger victim to be associated with an increased rate of sexual reoffending in a sample of 351 sexually offending youth (adjusted hazard ratio = 3.55; 19.4% of recidivists vs. 4.4% of nonrecidivists).

Studies on adults who have sexually offended have shown that those who offend against strangers are at increased risk for sexual recidivism. For instance, Hanson and Bussière (1998) found a small and positive association between having a stranger victim and sexual reoffending (r_+ = .15, CI = +/-.09, n = 465, k = 4). Hanson and Harris (2000a) also reported that adult sexual recidivists were significantly more likely to have victimized strangers than non-recidivists (50% vs. 35%, respectively).

RF4 Lack of peer relationships/social isolation.

According to Worling and Långström (2003, 2006), sexually offending youth who have difficulty forming, or have no interest in forming, age-appropriate relationships, or experience social isolation, are at higher risk for sexual recidivism. Specifically, they explained that a lack of age-appropriate relationships leads to feelings of loneliness and may lead youth to turn to children or nonconsensual sex with peers or adults to meet their intimacy and/or sexual needs.

In support of the role of social skills, Kenny et al. (2001) found that youth with poor social skills were more likely to be sexual recidivists as opposed to first-time sexual offenders (50% vs. 15%, respectively). In addition, they reported a significant and positive relationship between poor social skills and sexual recidivism. Findings from a path analysis revealed that poor social skills was causally related to sexual recidivism (β = .30), as well as indirectly linked to sexual recidivism via cognitive distortions (β = .29) and deviant sexual fantasies (β = .32). Långström and Grann (2000) also reported that youths with poor social skills were more than three times more likely to reoffend sexually than youths without such deficits. Lastly, Carpentier & Proulx (2011) found association with younger children to be significantly associated with an increased rate of sexual reoffending (adjusted hazard ratio = 3.12; 61.1% of recidivists vs. 30.5% of nonrecidivists). The authors hypothesized that youth's association with younger children may be due to relational problems that interfere with youth's ability to satisfy their interpersonal and intimacy needs. This finding also suggested that youth who sexually reoffended might have had access to potential victims, which placed them at higher risk for sexual reoffending (Carpentier & Proulx, 2011).

Although Worling and Curwen (2000) failed to find a significant association between social problems, as measured by a subscale from the Youth Self-Report Inventory, and sexual recidivism (r = -.04), the variable *social problems* may have included several factors related to social competencies and relationships that combined could have obscured the potential value of social skills deficits to predict sexual recidivism. Of note, literature on risk factors for violent behaviour among nonsexually offending youth has also identified social isolation and peer rejection to have strong associations with delinquency and aggression (Borum, 2000).

Regarding adults who have sexually offended, Hanson and Morton-Bourgon (2005) found the general category of intimacy deficits to have a small, yet significant relationship with sexual recidivism (Cohen's d = .15, CI = +/- .11, n = 2,852, k = 22). Further examination revealed that the effects were smaller for social skills deficits (d = -.07, k = 6) and loneliness (d = .03, k = 6) than for conflict in intimate relationships (d = .36, k = 4) and emotional identification with children (d = .42, k = 3). Compared to findings from adolescent samples, it appears that different aspects of intimacy deficits and/or alternative methods for measuring such deficits might contribute to the small association between social skills deficits, loneliness, and sexual recidivism among adults. Lastly, Hanson and Harris (2000b) found that intimacy problems, such as having no intimate partner and/or relationship conflicts, were observed more often among sexual recidivists than non-recidivists (r = .10).

RF5 Incomplete specialized treatment.

According to Worling and Långström (2003, 2006), a failure to complete specialized treatment places youths at higher risk to reoffend sexually. For example, Worling and Curwen (2000) compared the recidivism rates of 58 sexually offending youth in treatment and 90 sexually offending youth in a comparison group after an average follow-up of 6.2 years (ranged from two to ten years). The comparison group was initially divided into treatment dropouts (n = 27), treatment refusers (n = 17), and assessment only (n = 46), but were later combined into a single category because there were no significant differences between groups on factors typically linked to sexual or nonsexual recidivism and recidivism rates. In sum, they found that youths in the comparison group showed significantly higher rates of reoffending than youths in the treatment group for sexual offences (18% vs. 5%, respectively), nonsexual violent offences (32% vs. 19%, respectively), nonviolent offences (50% vs. 21%, respectively), and any criminal offence (54% vs. 35%, respectively). The positive outcome observed for the treatment group

compared to the comparison group persisted after adding ten years to the initial follow-up period (*M* = 16.23 years, ranged from 12 to 20 years). That is, youths in the treatment group showed significant reductions in recidivism compared to the comparison group (e.g., 9% vs. 21% for sexual reoffending; Worling, Litteljohn, & Bookalam, 2010).

In an earlier study, Borduin, Henggeler, Blaske, and Stein (1990) compared the recidivism rates of sexually offending youth randomly assigned to receiving Multisystemic Therapy (MST) or Individual Therapy (IT). Based on a three-year follow-up, Borduin and colleagues found that youths in the MST condition were less likely to reoffend sexually (13% vs. 75%) and nonsexually (25% vs. 50%) than those in the IT condition. More recently, Borduin, Schaeffer, and Heiblum (2009) conducted a randomized treatment trial comparing the efficacy of MST and Usual Community Services (UCS) with 48 sexually offending youth. Based on an average of 8.9-year follow-up, youths in the MST compared to the UCS condition were less likely to have future arrests for sexual (8% vs. 46%, respectively) and nonsexual (29% vs. 58%, respectively) offences. Both studies indicate that treatment could effectively reduce youths' risk for recidivism and highlight the efficacy of MST with sexually offending youth.

Furthering the strength of these individual studies, Reitzel and Carbonell (2006) conducted a meta-analysis of nine studies focusing on the effect of treatment on recidivism among sexually offending youth (N = 2,986). Sexually offending youth who received offence-specific treatment had an unweighted average sexual recidivism rate of 7%, whereas youth who received no treatment or a comparison form of treatment had an unweighted average sexual recidivism rate of 19%. Most importantly, there was a statistically significant effect of treatment on sexual recidivism (Maximum Likelihood Estimate of the Odds Ratio or MLE OR = 0.43, CI = +/- .33-.55), with lower recidivism rates for youths in the treatment group.

Research with adults who sexually offend has also indicated that treatment failure or problems with treatment compliance are associated with an increased risk for sexual recidivism. For instance, Hanson and Bussière (1998) found a significant relationship between failure to complete treatment and sexual recidivism (r_+ = .17, CI = .10-.24, *n* = 806, *k* = 6). Furthermore, Hanson and Harris (2000a) reported that although both sexual recidivists and non-recidivists were equally likely to attend specialized sex offender treatment, sexual recidivists were more likely to be perceived as poor treatment candidates compared to nonrecidivists (e.g., low motivation).

Hanson et al. (2002) conducted a meta-analysis of 43 treatment studies with adults who commit sexual offences (5,078 treated and 4,376 untreated offenders). Across all studies, the unweighted average sexual recidivism rate was lower for treatment groups (12%) than for comparison groups (17%, *k* = 38). On average, there was a small treatment effect on sexual recidivism (OR = .81, CI = .70-.93, *n* = 8,164, *k* = 38), with treated offenders having a small advantage over untreated offenders though there was considerable variability across studies. In addition, treatment dropouts had higher sexual recidivism rates compared to completers (OR = .47, CI = .36-.61, *n* = 2,732, *k* = 18). Although variations in research designs affected the size of treatment effect on recidivism, Hanson et al. (2002) stated that the overall evidence suggests that current treatment reduces recidivism.

Lastly, Hanson, Bourgon, Helmus, and Hodgson (2009) conducted a recent meta-analysis of 23 recidivism outcome studies, including four studies on sexually offending youth, comprising 3,121 treated sexual offenders and 3,625 offenders in the comparison groups. Overall, Hanson and colleagues found that the sexual recidivism rate for the treatment groups was significantly lower than the comparison groups (unweighted *M*s = 10.9% vs. 19.2%, respectively; *k* = 22). In addition, treated offenders had a significantly lower rate for general (any) recidivism than offenders in the comparison group (unweighted *M*s = 31.8% vs. 48.3%, respectively; *k* = 13).

RF6 Cognitive distortions.

Individuals who sexually offend frequently distort the perceptions of the act itself, deny the accusations against them, and/or minimize personal responsibility for their sexually abusive behaviours (Ward, Hudson, & Marshall, 1995). Ward and colleagues asserted that distortions in thinking are critical for facilitating and justifying sexually abusive behaviour. Research suggests that sexually offending youth who have distorted perceptions about the abusive event and/or their behaviours are probably at a higher risk to reoffend sexually. For example, Kahn and Chambers (1991) found that youths who blamed their victims for their abusive behaviours were more likely to commit a new sexual offence than those who did not engage in victim blame. In a similar vein, Schram et al. (1991) reported that juvenile sexual recidivists were more likely to exhibit thinking errors than nonsexual recidivists and nonrecidivists combined. In addition, recidivists (sexual and nonsexual) were significantly more likely to blame their victims for the sexual assault compared to nonrecidivists.

In a study of 70 juveniles who offended sexually, Kenny et al. (2001) found that cognitive distortions were present to a higher degree among sexual recidivists compared to first-time offenders. In addition, there was a significantly positive relationship between cognitive distortions and deviant sexual fantasies. Results from a path analysis revealed that cognitive distortions were directly linked to deviant sexual fantasies (β = .32), and indirectly linked to sexual recidivism via deviant sexual fantasies (β = .33). Smith and Monastersky (1986) also found that juveniles adjudicated for a sexual offence and who were unable to understand the exploitativeness of their sexual abusive behaviour were more likely to commit a future sexual offence than juveniles who understood the severity of their behaviour.

Focusing on adults who sexually offend, Abel, Gore, Holland, Camp, Becker, and Rathner (1989) assessed the prevalence of cognitive distortions via the Cognition Scale in a sample of 240 child molesters, 48 other paraphilic offenders, and 86 non-paraphilic offenders. Abel and colleagues found that child molesters scored significantly higher on the six factor scales of the Cognition Scale than controls thus successfully discriminating between both groups. Further analyses revealed that scores on the Cognition Scale were significantly associated with duration of child molestation (accounted for 24% of the variance); that is, the longer the behaviours continued, the more cognitive distortions present. In addition, cognitive distortions were significantly associated with an increasing number of different types of child molestation behaviours (accounted for 11% of the variance). Lastly, Hanson and Morton-Bourgon (2005) found the general category of sexual attitudes to be significantly associated with sexual recidivism though the effect was small (Cohen's d = .16, CI = +/- .12, n = 2,370, k = 14). In addition, it was unknown which specific attitudes were likely to be related to sexual reoffending.

RF7 Problematic parent-adolescent relationships.

Worling and Långström (2003, 2006) said that sexually offending youth with parent relationship problems are probably at a higher risk to reoffend sexually. Worling and Curwen (2000) found a moderate association between perceived feelings of parental rejection and subsequent charges for a sexual offence in a sample of 130 sexually abusive youth (r = .22); however, the area under the Receiver-Operating Characteristic (ROC) curve indicated that this variable was not a significant predictor of sexual reoffending (AUC = .64, p = .09). In a sample of 169 sexually abusive youth, Spice et al. (2009) reported that repeat offenders were significantly more likely to have problematic parental relationships than non-repeat offenders

(r_{pb} = .21). Moreover, Carpentier & Proulx (2011) found long-term paternal abandonment to be significantly associated with an increased rate of sexual reoffending (adjusted hazard ratio = 2.57; 66.7% of recidivists vs. 37.5% of nonrecidivists). The authors linked several lines of research and put forth that attachment disorganization contributes to the development and maintenance of antisocial behaviours; factors linked with insecure attachment (e.g., emotional dysregulation, low empathy) coupled with normative developmental processes (e.g., sexual impulses) may lead to further antisocial behaviours including sexual aggression. Lastly, authors of clinical checklists and guidelines consider the quality of parent-adolescent relationship to be a relevant risk factor for recidivism among sexually offending youth (Worling & Långström, 2003, 2006).

Lipsey and Derzon (1998) conducted a meta-analysis of 34 longitudinal studies on risk factors for violence to identify predictors of subsequent serious or violent offences (including sexual offences) in children and adolescents. They found poor parent-child relations to be a significant predictor of future violence or delinquency at ages 12 to 14 (mean r = .19). Cottle, Lee, and Heilbrun (2001) conducted a meta-analysis of 23 published studies with 15,265 juvenile offenders to identify predictors of any recidivism, including sexual recidivism. Consistent with the above findings, Cottle and colleagues reported that family problems (e.g., poor relationships within the family) significantly predicted any recidivism (weighted mean *ES* = .28, n = 1,054, k = 5). Both findings suggest that problematic parent-child relationships is a risk factor for future offending behaviour though its unique association with sexual reoffending could not be determined.

Research with adults who have sexually offended has provided some evidence for the association between early problematic parental relationships and sexual recidivism. For instance, Hanson and Bussière (1998) found that offenders who reported having negative relationships with their mothers were more likely to reoffend sexually (r_+ = .16, CI = .06-.26, n = 378, k = 3). On the other hand, having a negative relationship with one's father had a small and nonsignificant relationship with sexual recidivism (r_+ = .02, CI = .08-.12, n = 377, k = 3). Hanson and Harris (2000a) also found that sexual recidivists were significantly more likely to report having a negative relationship with their mother during childhood than nonsexual recidivists (34% vs. 21%, respectively), as well as to experience long-term separation from their

parents prior to age 16 (43% vs. 29%, respectively), which might be an indicator of problematic parent-adolescent relations.

2.1.2.2.2 Promising risk factors.

RF8 Multiple victims.

Youth who have sexually offended against more than one victim are at higher risk for sexual recidivism (Gerhold et al., 2007; Worling & Långström, 2003, 2006). For instance, Rasmussen (1999) conducted a retrospective examination of factors associated with recidivism in a sample of 170 youths adjudicated for sexual offending over a five-year period. Bivariate analyses revealed that total number of victims (e^B = 1.54) and number of female victims (e^B = 1.58) were significantly associated with sexual recidivism. That is, youths who had a greater number of female victims or total victims were more likely to reoffend sexually. Given that both variables were significantly correlated (r = .89), Rasmussen entered *number of females victims* into a multivariate analysis and found it to be significantly and positively associated with the hazard rate for sexual recidivism.

Långström and Grann (2000) along with Långström's (2002) follow-up study found sexual offending against two or more victims to increase significantly the likelihood for a sexual reconviction. In both studies, this factor had a significantly elevated risk ratio though it was lower in the extension study. That is, with an average follow-up of 115 months, Långström (2002) reported that youth who sexually offended against two or more victims were approximately 2.68 times more likely to reoffend sexually than youth with less than two victims (r = .27; compared to a previous e^B = 4.02).

Contrary to the above findings, McCann and Lussier's (2008) reported number of victims to be unrelated to sexual recidivism (mean *ES* = .14, n = 409, k = 2); however, only two studies examined the predictive power of this risk factor. Although Spice et al. (2009) did not find that juveniles who had multiple victims were more likely to reoffend sexually, they found it to be significantly associated with sexual aggression during treatment (r_{pb} = .19) and repeat offending (r_{pb} = .28). Lastly, several authors of clinical checklists and guidelines for the assessment of risk among sexually offending youth consider history of multiple victims a relevant risk factor for recidivism risk (Worling & Långström, 2003, 2006).

RF9 Antisocial personality orientation.

Youth who have sexually offended and who exhibit an antisocial personality orientation are at a higher risk to recidivate because they tend to exploit others to meet their personal needs and to disobey societal rules and laws, thus these youth may continue to offend sexually to fulfill their sexual needs (Worling & Långström, 2003, 2006). Recent studies support the relationship between antisociality and sexual recidivism among sexually offending youth. For instance, Parks and Bard (2006) examined the presence of recidivism risk factors in a sample of 156 sexually abusive youth who participated in specialized treatment. Cox regression analyses revealed that the Impulsive/Antisocial Behavior Scale of the *Juvenile Sex Offender Assessment Protocol-II* (β = .30) and the Interpersonal (β = .36) and Antisocial (β = -.44) Factors of the *Psychopathy Checklist: Youth Version* (PCL:YV) significantly predicted sexual recidivism.

Worling (2001) used cluster analysis on factor scores derived from the *California Psychological Inventory* (CPI; Gough, 1987) to identify personality-based subgroups of sexually abusive youth: Antisocial/Impulsive (n = 43), Overcontrolled/Reserved (n = 20), Confident/Aggressive (n = 19), and Unusual/Isolated (n = 15). The Antisocial/Impulsive subgroup exhibited delinquent and impulsive personality traits and compared to the other subgroups, they were more likely to have charges for their index sexual offences. After an average follow-up of six years, both the Antisocial/Impulsive and Unusual/Isolated subgroups were most likely to obtain a new charge for a violent (sexual or nonsexual) offence than the less pathological subgroups (40% vs. 15%, respectively). Worling viewed these findings in support of personality factors for the prediction of risk among this population.

McCann and Lussier (2008) combined several risk factors to form an antisociality dimension: prior nonsexual offences, high number of past convictions, use of threats and/or weapons, psychopathy, antisocial personality disorder, aggressive behavior, lack of discipline, and drug use. The antisociality dimension was significantly associated with sexual recidivism (mean ES = .10, n = 1,805, k = 10), with youths presenting antisocial characteristics being more likely to reoffend. These findings were consistent with those from Hanson and Morton-Bourgon (2005) meta-analysis, where antisocial orientation was also a significant predictor of sexual recidivism among adolescents who sexually offended (Cohen's d = .19, CI = +/- .17, n = 1,958, k = 14). Yeater, Lenberg, and Bryan (2012) found that externalizing behaviours (as measured by the Child Behavior Checklist) was a significant and unique predictor of sexual aggression,

namely sexual harassment and forced sexual contact (β = .12) among adolescent male probationers at a 6-month follow-up. In a sample of 351 sexually offending youth (*M* follow-up time = 8 years), Carpentier, Leclerc, and Proulx (2011) found that the co-occurrence of aggressive and deviant sexual behaviours in childhood was associated with an earlier onset of sexual offending (before age 12), and that youth who presented with antisocial traits were at a higher risk for sexual and nonsexual reoffending.

However, Worling and Långström (2003, 2006) noted that empirical evidence supporting the association between an antisocial personality orientation and sexual recidivism is lacking based on the following research findings. Gretton et al. (2001) examined the association between psychopathy-related personality features, as measured by the PCL:YV, and recidivism in a sample of 220 adolescents who committed sexual offences. Overall, PCL:YV Total scores significantly correlated with general reoffending (r_{pb} = .25), violent reoffending (r_{pb} = .19), but not sexual reoffending (r_{pb} = .09). When considering Factors 1 and 2 scores separately, Gretton and colleagues reported that Factor 2 scores were more strongly correlated with general, violent, and nonviolent offences ($r_{pb's}$ .21, .26, and .24, respectively) than Factor 1 scores ($r_{pb's}$ .16, .06, and .12, respectively). However, they did not report the correlations between each of the Factor scores and sexual reoffending. Furthermore, youth were divided into low, medium, and high PCL:YV scorers. Gretton et al. reported that the odds an offender in the high PCL:YV group would commit a sexual offence was 3.01 times than an offender in the low group. Although youths in the high PCL:YV group reoffended at a significantly faster rate than youths in the low PCL:YV group, PCL:YV scores did not significantly contribute to the prediction of sexual reoffending.

In another study, Långström and Grann (2000) reported that a retrospective psychopathy rating based on the *Psychopathy Checklist-Revised* (Total PCL-R $\geq$ 26) was a significant predictor of general recidivism, but not sexual recidivism. Moreover, Worling and Curwen (2000) assessed youths' antisocial personality orientation using the Socialization (So) scale from the CPI, but failed to find a significant association between this variable and sexual recidivism though it significantly predicted nonsexual violent and nonviolent recidivism.

Although the latter three studies failed to find a significant association between an antisocial personality orientation and sexual recidivism, there are two caveats that warrant attention. First, two of the studies examined the role of psychopathy-related personality features

and the last study was focused on antisocial orientation. The terms antisocial personality and psychopathy-related personality features are sometimes used interchangeably in the literature, but antisocial personality features form part of the construct of psychopathy as measured by the PCL:YV and PCL-R; therefore, both terms are not meant to reflect the same underlying construct. Second, considering potential differences in the associations between different facets of the psychopathy construct and criminal recidivism among sexually offending youth (e.g., Parks & Bard, 2006), studies focusing on the relationship between psychopathy-related personality features and recidivism need to examine the individual contribution of the Factor scores to the prediction of recidivism. This level of analysis could help determine whether an antisocial personality orientation and/or other relevant psychopathy-related personality features are associated with sexual recidivism. In light of these two caveats and more recent findings supporting the association between antisocial personality orientation and sexual recidivism, this risk factor was considered *promising* as opposed to *possible*.

Meta-analyses aimed at identifying predictors of juvenile recidivism (including sexual recidivism) also provide support for the association between antisocial personality features and recidivism. For example, Cottle et al. (2001) found the following risk factors to be significant predictors of any recidivism: conduct problems (weighted mean *ES* = .26, *n* = 1,667, *k* = 7), number of prior commitments (weighted mean *ES* = .17, *n* = 585, *k* = 3), and number of prior arrests (weighted mean *ES* = .06, *n* = 10,155, *k* = 7). Lipsey and Derzon (1998) also found a couple of risk factors reflecting an antisocial personality orientation to predict future violent or delinquency at ages 12 to14: general offences (mean *r* = .26) and aggression (mean *r* = .19).

Focusing on adults who have sexually offended, Hanson and Bussière (1998) found that antisocial personality disorder was a small predictor of sexual recidivism (r_+ = .14, CI = .10-.24, *n* = 806, *k* = 6). In a later meta-analysis, Hanson and Morton-Bourgon (2005) examined the relationship between antisocial orientation and sexual recidivism. Antisocial orientation referred to antisocial personality (e.g., antisocial personality disorder and psychopathy), antisocial traits (e.g., impulsivity, substance abuse, and hostility), and history of rule violation (e.g., violation of conditional release). The authors found that antisocial orientation was one of the strongest predictor of sexual recidivism (Cohen's *d* = .23, CI = +/- .04, *n* = 23,012, *k* = 65). Individual indicators of an antisocial orientation were also significant predictors of sexual recidivism: antisocial personality disorder (Cohen's *d* = .21, CI = +/- .10, *n* = 3,267, *k* = 12), psychopathy

(Cohen's *d* = .29, CI = +/- .09, *n* = 2,783, *k* = 13), general self-regulation problems (Cohen's *d* = .37, CI = +/- .11, *n* = 2,411, *k* = 15), employment instability (Cohen's *d* = .22, CI = +/- .09, *n* = 5,357, *k* = 15), and hostility (Cohen's *d* = .17, CI = +/- .13, *n* = 1,960, *k* = 9). Lastly, Hanson and Harris (2000a) reported that, compared to nonsexual recidivists, sexual recidivists were significantly more likely to exhibit traits consistent with an antisocial personality disorder (49% vs. 64%, respectively), and to obtain psychopathy scores greater than 29 as measured by the PCL-R (8% vs. 21%, respectively).

RF10 Use of threats and/or violence.

Some studies and authors of clinical guidelines/checklists for youth who sexually offend indicate that youth who use threats and/or violence while committing sexual offences are at higher risk for sexual reoffending (Worling & Långström, 2003, 2006). For instance, Kahn and Chambers (1991) reported that sexually offending juveniles who used verbal threats during their sexual offences were significantly more likely to reoffend sexually than those who did not threaten their victims. McCann and Lussier's (2008) meta-analysis indicated that using threats and/or weapons during the commission of the sexual offence was a significant predictor of sexual recidivism (mean *ES* = .14, *n* = 791, *k* = 4), with juveniles using either form of violence being more likely to reoffend sexually. Nonetheless, causing physical injuries to the victim was not a significant predictor of sexual recidivism (mean *ES* = .09, *n* = 190, *k* = 2); the small and nonsignificant *ES* might be due to the limited number of studies examining the empirical association between these variables (McCann & Lussier, 2008). On the other hand, Långström (2002) found that serious physical injury to the victim was significantly associated with any rape reconviction (*r* = .20).

On the contrary, Långström and Grann (2000) found that the use of death threats or weapons (e^{β} = 0.42), as well as causing serious physical injury to the victim (e^{β} = 0.86), did not increase youths' risk for a new sexual conviction. Långström's (2002) follow-up study provided similar findings for the variables, use of threats or weapons (*r* = -.07, e^{β} = 0.78) and cause of serious physical injury to the victim (*r* = .09, e^{β} = 1.07). Although the use of threats or force was significantly associated with sexual reconviction (*r* = -.19), its relationship was opposite to the expected direction and its hazard ratio was not significantly higher than 1.0 (e^{β} = 0.53). Långström (2002) found that the use of threats/force and death threats/weapons during the commission of the sexual offence had a significant negative relationship with sexual reconviction

within 120 months (*r*'s = -.25 and -.31, respectively) and number of sexual reconvictions (*r* = -.24, death threats/weapons only).

Regarding adults who have sexually offended, Hanson and Bussière (1998) found that using force or causing injury to the victim during the commission of a sexual offence was not significantly associated with risk for sexual recidivism (r_+ = .01, CI = -.04-.06, *n* = 1,564, *k* = 8).

Findings up-to-date provide some support, albeit limited, for considering past use of threats/violence as a risk factor for sexual recidivism among youth and suggest that causing serious physical injury to the victim may increase youths' risk for sexual assault of same-aged peers and/or adults.

2.1.2.2.3 Possible risk factors.

RF11 Male victim.

There is mixed evidence on whether sexual offending against males is a risk factor for sexual recidivism among youth (Worling & Långström, 2003, 2006). For instance, Långström and Grann (2000) found that youths who targeted males in their previous sexual offences were approximately 3.66 times more likely to reoffend sexually than those targeting females. Smith and Monastersky (1986) also reported that juveniles who committed a sexual offence against a male were more likely to reoffend sexually than those who targeted only females (23% vs. 11%, respectively). Moreover, Spice et al. (2009) observed that having a male victim was significantly associated with sexual aggression during treatment (r_{pb} = .19) and repeat offending (r_{pb} = .17). According to Kahn and Chambers (1991), juveniles adjudicated for sexual offending and had at least three victims showed a greater tendency to choose male victims (54%) than did offenders with less victims. This finding was important given that male offenders with a strong arousal to same-sex individuals might be at higher risk for persistent offending. Lastly, McCann and Lussier (2008)'s meta-analytic study revealed that victim gender was significantly associated with sexual recidivism, with juveniles offenders who had ever targeted a male victim being more likely to reoffend sexually (mean *ES* = .10, *n* = 594, *k* = 4).

Four studies revealed different pattern of results. First, Worling and Curwen (2000) failed to find a significant association between victim sex and sexual recidivism (*r* = -.01). Second, Rasmussen (1999) reported that juveniles who had more female victims were significantly more likely to reoffend sexually (e^{β} = 1.58); there was no similar pattern for youths who had more male victims (e^{β} = 1.34). Of note, the variable *number of female victims* may reflect the

predictive role of number of victims, a different risk factor, instead of victim gender. Third, Miner (2002) conducted a retrospective follow-up of 86 sexually offending youths who attended specialized treatment. Having a male victim was associated with a decreased risk for any (including sexual) reoffending (Hazard rate = .45). Finally, Långström's (2002) follow-up study revealed that having any male victim was significantly associated with a sexual reconviction within 120 months (r = .29), but not with any sexual reconviction (r = .08). This finding suggests that a breakdown in follow-up periods may help identify risk factors for sexual recidivism that might otherwise be overshadowed.

Focusing on adults who sexually offend, Hanson and Bussière (1998) observed a small but significant association between having a male child victim and sexual recidivism (r_+ = .11, CI = .09-.13, n = 10,294, k = 19). Hanson and Harris (2000a) reported that sexual recidivists were more likely to have diverse victim types, both age and sex, than nonrecidivists (54% vs. 33%, respectively), and Hanson and Bussière (1998) observed that the association between diverse children victims (both sexes) and sexual recidivism was insignificant (r_+ = .09, CI = .07-.11, n = 7,598, k = 9). Together, studies on adults and adolescents who sexually offend suggest that having male or both sexes' victims might increase offenders' risk for sexual recidivism.

RF12 Child victim.

Studies on youth who sexually offend have provided mixed results on whether having a child victim increases risk for sexual recidivism (Worling & Långström, 2003, 2006). On one hand, Worling and Curwen (2000) reported no relationship between ever having a child victim and sexual recidivism (r = -.01). Långström and Grann (2000) found that youth who have sexually offended and who had any victim less than 12 years-old were not at a higher risk for a new sexual conviction (e^{β} = 1.37). In a follow-up study, Långström (2002) continued to find a small and nonsignificant association between both variables (r = .10, e^{β} = 1.63). However, further analysis revealed that having any victim less than 12 years-old was significantly associated with a sexual reconviction within 120 months (r = .32), but not within 6 months. Rasmussen (1999) also found that age of youngest victim did not significantly predict sexual recidivism (e^{β} = 0.96). Smith and Monastersky (1986) reported that sexually offending youth who targeted younger victims were less likely to reoffend sexually than youths who victimized peer age or adult victims (11% vs. 23%, respectively). Lastly, Spice et al. (2009) reported that sexually offending youth who presented an indiscriminate choice of victims were more likely to

engage in sexual aggression during treatment (r_{pb} = .26) and repeat offending (r_{pb} = .29) than those with a discriminate victim choice.

On the other hand, Sipe et al. (1998) reported that individuals adjudicated as juveniles for lewd conduct toward a child were significantly more likely to reoffend sexually as adults than those without such offence history. Miner's (2002) retrospective follow-up of 86 male juveniles adjudicated for committing sexual offences revealed that preoccupation with children was significantly related to an increased risk for any recidivism, including sexual offences (Hazard rate = 2.12). McCann and Lussier's (2008) meta-analytic findings indicated that victim age was a significant predictor of sexual recidivism, with juveniles who had a child (mean *ES* = .15, *n* = 594, *k* = 4) or an adult (mean *ES* = .15, *n* = 365, *k* = 2) victim as more likely to reoffend sexually.

Focusing on adults who sexually offend, Hanson and Bussière (1998) found that having any child victim was not significantly associated with risk for sexual reoffending (r_+ = -.03, CI = -.05-.01, *n* = 13,683, *k* = 24). Hanson and Harris (2000a) also reported no significant difference in the proportion of sexual recidivists and non-recidivists who targeted children or adults.

Worling and Långström (2003, 2006) argued that mixed results on the association between victim sex, victim age, and sexual recidivism are consistent with knowledge that sexual preferences during adolescence are fluid (Hunter & Becker, 1994). On the contrary, victim characteristics related to sexual preferences are more stable during adulthood; therefore, studies examining the association between these variables during that developmental period would provide findings that are more consistent.

RF13 Environment supporting reoffending.

Developers of clinical guidelines/checklists propose that youth who have sexually offended and who live in environments that provide opportunities to reoffend sexually (e.g., poor adult supervision, accessibility to victims) are at higher risk for sexual recidivism (Worling & Långström, 2003, 2006; see Carpentier & Proulx, 2011). In a sample of 169 male adolescents who had sexually offended, Spice et al. (2009) found that opportunities to reoffend was significantly associated with sexual recidivism (r_{pb} = .18). More recently, Spice et al. (2012) identified opportunities to reoffend (as coded by the ERASOR) to be significantly associated with sexual recidivism ((φ = .18) among a sample of 193 sexually offending youth followed for an average of 7.24 years after discharge from treatment. There appears to be no other studies

evaluating the relevance of the present risk factor for the prediction of sexual recidivism among youth.

Hanson and Harris (2000b) examined the psychometric properties of the *Sex Offender Need Assessment Rating* (SONAR) in a sample of 409 adults divided into those who sexually offended while on community supervision (n = 208) and those who did not reoffend sexually or violently (n = 201). One of the risk factors in the SONAR is opportunities for victim access. This factor significantly distinguished recidivists from non-recidivists (r = .23, M = .18 vs. M = -.08, respectively), with recidivists being more likely to place themselves in situations where potential victims were available.

RF14 Impulsivity.

Youth who have sexually offended and who are impulsive are at higher risk for committing a future sexual offence (Worling & Långström, 2003, 2006). For instance, Miner (2002) found that impulsivity (i.e., being reckless and aggressive, as well as acting on irresistible impulses) was associated with an increased risk for any (including sexual) recidivism (Hazard rate = 1.59) in a sample of 86 male youths adjudicated for sexual offences. In a sample of 404 adolescent male (nonsexual) offenders on probation, Yeater, Lenberg, and Bryan (2012) found that those reporting higher levels of impulsivity engaged in more severe sexual aggression (r = .14), particularly sexual harassment. Although Miner (2002) and Parks and Bard (2006) are the only known published studies to evaluate the predictive value of this variable among sexually abusive youth, Worling (2001) found that sexually abusive youth categorized as Antisocial/Impulsive were at a higher risk for committing a new charge for a violent (including sexual) offence.

Borum (2000) stated that impulsivity, as defined by behavioural and affective instability, has been associated with juvenile violence and delinquency. In addition, meta-analytic studies revealed that variables considered part of the behavioural instability aspect of impulsivity and related to general criminality (e.g., conduct and school behavioural problems) are significant predictors of any and violent/serious recidivism (including sexual) in juveniles (e.g., Cottle et al., 2001; Lipsey & Derzon, 1998).

Focusing on adults who have sexually offended, Hanson and Harris (2000b) stated that poor behavioural control could directly contribute to the commission of sexual offences (e.g., opportunistic offending behaviour) and indirectly increase the likelihood of sexual reoffending

for those offenders who have a fixed pattern of sexual deviance. They added that poor self-management skills might lead to problems with treatment compliance and supervision. Consistent with these observations, Hanson and Morton-Bourgon (2005) reported that general self-regulation problems (lifestyle instability/impulsivity) significantly predicted sexual recidivism (Cohen's d = .37, CI = +/- .11, n = 2,411, k = 15). Hanson and Harris (2000b) also reported that problems with general self-regulation (i.e., difficulties with self-monitoring and ability to comply with supervision) significantly differentiated between sexual recidivists and non-recidivists (r = .41), with sexual recidivists being more likely to present with self-regulation deficits (M = 1.7 vs. M = 1.2, respectively).

RF15 Sexual preoccupation/obsessions.

Developers of clinical guidelines/checklists to assess risk for sexual violence among youth consider preoccupations and/or obsessions with sexual images, thoughts, and/or fantasies as a potential risk factor for sexual recidivism (Worling & Långström, 2003, 2006). Spice et al. (2009) found that obsessive sexual interests significantly differentiated between repeat offenders and non-repeat offenders (r_{pb} = .30). In addition, offenders experiencing obsessive sexual interests were significantly more likely to engage in sexual aggression while in treatment than offenders without such problem (r_{pb} = .17).

Focusing on adults who have sexually offended, Hanson and Morton-Bourgon (2005) observed that sexual preoccupations was a significant predictor of sexual recidivism (Cohen's d = .39, CI = +/- .16, n = 1,119, k = 6). Moreover, the SONAR contains an item that assesses offenders' sexual self-regulation, included in this dimension are indirect measures of sexual deviance such as sexual preoccupations (Hanson & Harris, 2000b). In the SONAR validation study, Hanson and Harris (2000b) found that sexual self-regulation significantly distinguished between sexual recidivists and non-recidivists (r = .31), with recidivists experiencing greater problems in this area compared to nonrecidivists (M = 1.7 vs. M = 1.3, respectively).

2.1.2.2.4 Other potential risk factors.

Worling and Långström (2003, 2006) identified *high-stress family environment*, *interpersonal aggression*, and *negative peer associations* as *possible* risk factors for sexual recidivism among sexually offending youth. However, empirical evidence supporting the import of these variables comes primarily from studies on adults who have sexually offended and/or predictors of violent (including sexual) offending in male juvenile offenders.

RF16 High-stress family environment.

According to Worling and Långström (2003), high levels of family distress (e.g., family conflict and violence) could contribute to feelings of insecurity, rejection, and anger in adolescents, including those who have sexually offended. Efta-Breitbach and Freeman (2004) noted that one of the main reasons youth fail to attend or to complete treatment is because of a lack of proper support and supervision from their families.

Lipsey and Derzon (1998) examined the association of various variables that could contribute to family distress/dysfunction and violent (including sexual) offending. The authors reported that, at age 16, parental criminality, poor family management, family conflict, and residential mobility increased risk for violent offending at age 18. On the contrary, coming from a broken home and having abusive parents were poor predictors of future violence. Furthermore, poor parental supervision, child-rearing practices, and parent-adolescent communication, all factors that could lead to family distress, tend to increase risk for violent behaviour in adolescents (Borum, 2000).

Focusing on adults who have sexually offended, Hanson and Harris (2000a) reported that recidivists were significantly more likely to have a negative childhood (e.g., exposure to childhood abuse, parental separation) compared to non-recidivists (M = 2.6 vs. M = 1.8, respectively). On the contrary, Hanson and Bussière (1998) found that general family problems was not a significant predictor of sexual recidivism (r_+ = .08, CI = -.01-.15, n = 812, k = 5).

Overall, researchers need to examine whether past and current family problems that contribute to a distressing environment for youths are associated to an increased risk for sexual recidivism. Given that many factors could lead to a stressful family environment, it will be important to identify descriptors that capture the meaning of *stressful environment*, and distinguish these descriptors from those related to poor parent-adolescent relationship.

RF17 Interpersonal aggression.

Youth who have sexually offended and who have a history of interpersonal aggression are likely to be at a higher risk for sexual reoffending as they may feel little remorse and/or empathy toward others and/or use aggression to cope with life stressors (Worling & Långström, 2003). Anger problems are linked to aggression in young offenders. For example, Lipsey and Derzon (1998) identified aggression as a significant predictor of violent behaviour at ages 12 to

14 (mean r = .19). Cognitive styles and/or mechanisms (e.g., hostile attribution bias) and substance abuse are factors that mediate the association between these variables (Borum, 2000).

Regarding adults who have sexually offended, Hanson and Bussière (1998) found anger problems to be a small predictor of sexual recidivism (r_+ = .13, CI = .00-.26, n = 231, k = 3). Consistent with this finding, Hanson and Morton-Bourgon (2005) identified hostility as a possible dynamic risk factor for sexual recidivism (Cohen's d = .17, CI = +/- .13, n = 1,960, k = 9).

RF18 Negative peer relationships.

Some developers of clinical guidelines/checklists consider having an antisocial peer group to increase youth's risk for sexual recidivism (Worling & Långström, 2003, 2006). Evidence for the import of this variable stems from research on juvenile delinquency. This research has consistently shown that being involved in delinquent peer groups is a strong predictor of violence and delinquency (Borum, 2000). For example, Lipsey and Derzon (1998) found that affiliation with delinquent peers at ages 10, 14, and 16, significantly predicted future violence among adolescents. Cottle et al. (2001) also found that association with delinquent peers was a moderate predictor of any (including sexual) recidivism in juveniles (weighted mean ES = .20, n = 1,525, k = 7). No studies focusing on the role of this variable in sexually offending youth were located.

Table 2.2

Predictors of Sexual Recidivism Among Youth Who have Sexually Offended

Dynamic Variables	Static Variables
Deviant sexual interests[e,f,g,k,p,s,v,y]	History of prior sexual offences[h,i,k,p,s]
Lack of peer relationships/Social isolation[c,g,i]	Multiple victims[h,i,k,n,s]
Incomplete specialized treatment[a,b,o,v]	Stranger victim[c,h,k,r]
Cognitive distortions[f,g,p,r]	Male victim[f,i,k,r,s]
Problematic parent-adolescent relationship[c,d,j,s,v]	Child victim[h,k,l,q]
Antisocial orientation[d,e,j,k,m,u,w,x]	Use of threats and/or violence[f,k]
Environment supporting reoffending[s,t]	
Impulsivity[d,j,l,u,w]	
Sexual preoccupations and obsessions[s]	
High stress family environment[j]	
Interpersonal aggression[j]	
Negative peer relationships[d,j]	

Note. [a]Borduin et al., 1990; [b]Borduin et al., 2009; [c]Carpentier & Proulx, 2011; [d]Cottle et al., 2001; [e]Hanson & Morton-Bourgon, 2005; [f]Kahn & Chambers, 1991; [g]Kenny et al., 2001; [h]Långström, 2002; [i]Långström & Grann, 2000; [j]Lipsey & Derzon, 1998; [k]McCann & Lussier, 2008; [l]Miner, 2002; [m]Parks & Bard, 2006; [n]Rasmussen, 1999; [o]Reitzel & Carbonell, 2006; [p]Schram et al., 1991; [q]Sipe et al., 1998; [r]Smith & Monastersky, 1986; [s]Spice et al., 2009; [t]Spice et al., 2012; [u]Worling, 2001; [v]Worling & Curwen, 2000; [w]Yeater et al., 2012; [x]Carpentier et al., 2011; [y]Clift et al., 2009.

2.1.2.3 Risk factors for nonsexual recidivism.

Male adolescents who have sexually offended and who commit new offences are, on average, more likely to receive charges and/or convictions for nonsexual offences. As a result, investigators have attempted to identify risk factors for nonsexual reoffending, as well as examine the overlap and uniqueness between factors that predict nonsexual and sexual reoffending.

In a retrospective follow-up study of 46 sexually offending youth, Långström and Grann (2000) identified five factors with risk ratios significantly different from 1.0. These factors were conduct disorder symptoms prior to age 15, any prior violent conviction, ≥ 3 prior convictions for any crime, psychopathy (Total PCL-R score ≥ 26), and use of death threats/weapons in the index offence (e^B's ranged from 1.96 to 3.81). These factors predicted general recidivism, which was a reconviction for any offence, including sexual offences. In a follow-up study, Långström (2002) reported that six factors significantly increased youths' risk for nonsexual violent recidivism. These factors were symptoms of conduct disorder prior to age 15 (r = .30, e^B = 3.47), any prior violent conviction (r = .17, e^B = 2.45), any victim penetration (r = .19, e^B = 2.15), use of

threats or force (r = .19, e^B = 2.43), use of death threats/weapons (r = .35, e^B = 2.99), and physical injury to the victim (r = .20, e^B = 1.91). Although there was some consistency in risk factors associated with general and nonsexual violent recidivism, Långström identified unique factors associated with a narrower form of recidivism.

In a sample of 170 juveniles who committed sexual offences, Rasmussen (1999) identified four factors associated with an increased risk for nonsexual reoffending. Specifically, youths who were more likely to reoffend nonsexually had committed more prior nonsexual offences (e^B = 1.07), targeted older victims (e^B = 1.06), had their parents divorced or separated (e^B = 1.71), and failed to attend or to complete treatment (e^B = .54). However, when entered in a regression equation, only history of nonsexual offences (e^B = 1.06) and failure to attend or complete treatment (e^B = .58) remained significant predictors. That is, youths with a history of prior nonsexual offences were 6% more likely to reoffend nonsexually than youths without such history. This finding is consistent with Spice et al. (2012) who found that prior nonsexual offending was significantly associated with violent and general recidivism (φ's = .18-.28). Moreover, Rasmussen found that youth who did not attend or fail to complete treatment were 72% more likely to reoffend nonsexually than those who completed treatment.

Kahn and Chambers (1991) found that offenders with social skills deficits and poor sex knowledge were significantly less likely to reoffend criminally (including sexual offences) than youths without such deficits. According to Kahn and Chambers, these findings were not surprising given that juveniles with social skills deficits are likely to have limited interpersonal relationships and feel isolated, which in turn, prevents them from relating with delinquent peers and feeling pressured. Moreover, offenders who exhibited more school behaviour problems, had a history of sexual abuse, and had a sibling who experienced sexual abuse were significantly more likely to reoffend criminally than offenders without such histories. Lastly, offenders who were younger at the time of their disposition for their sexual offences were at a greater risk for reoffending criminally and sexually than those who were older.

In another study, Worling and Curwen (2000) identified several factors associated with nonsexual violent and nonviolent recidivism among sexually offending youth, with significant overlap in findings. Specifically, nonsexual violent recidivism was significantly associated with economic disadvantage (r = -.26, AUC = .72), history of delinquent and aggressive behaviours (r = .31, AUC = .69; r = .24, AUC = .65, respectively), antisocial orientation (r = -.25, AUC = .70),

hostility (r = .20, AUC = .62), and low self-esteem (r = -.20, AUC = .64). In addition, youths with a criminal history (r = .23) and past sexual abuse (r = .24) were more likely to commit future nonsexual violent offences. Worling and Curwen identified three unique predictors of nonsexual nonviolent recidivism: parental rejection (r = .17, AUC = .61), family conflict (r = .18, AUC = .63), and sexually offending against peers or adults instead of children (r = -.20). The authors noted that no one risk factor was superior in its prediction of nonsexual violent and nonviolent recidivism. Indeed, most of these factors are predictors of violence among juveniles (see Borum, 2000). Carpentier and Proulx (2011) found past delinquency, childhood sexual abuse, and previous diagnosis of attention-deficit disorder to be significantly associated with an increased rate of violent and general reoffending. Moreover, Spice et al. (2012) found peer delinquency and age at first nonsexual offence to be significantly associated with violent recidivism among sexually offending youth (Spearman r's = .19 and .26, respectively).

Based on a sample of 86 juveniles adjudicated for committing sexual offences, Miner (2002) found that impulsivity (Hazard rate = 1.47) and preoccupation with children (Hazard rate = 1.84) increased juveniles' risk for violent or property reoffending. Furthermore, juveniles who were younger at the time of their first offence (Hazard rate = .86) and spent shorter stays in treatment (Hazard rate = .86) were at higher risk to reoffend nonsexually. Lastly, Rasmussen (1999) reported that youths who had committed sexual offences and whose parents divorced or separated were significantly more likely to reoffend nonsexually than youths without a history of family disruption (e^B = 1.71).

2.1.2.4 General summary.

Literature aimed at identifying factors associated with an increased risk for sexual recidivism among male youth who sexually offend is critical because it provides the basis for developing measures that assess risk for future sexual violence among this population (see Table 2.2 for a list of predictors of sexual recidivism). Although literature on risk factors for sexual recidivism among sexually offending youth continues to provide conflicting results, a review of research findings indicate that there is an overlap between risk factors associated with sexual recidivism for both adults and youth who have sexually offended (e.g., deviant sexual interests, incomplete specialized treatment, history of prior sex offences). At the same time, there are factors associated with an increased risk for sexual recidivism that may be more critical to sexually offending youth or unique to this population (e.g., lack of peer relationships/social

isolation, problematic parent-adolescent relationships). Moreover, there are factors associated with an increased risk for sexual recidivism among adults who sexually offend that have no relevance for youth such as marital status (Worling & Långström, 2006).

Recently, Seto and Lalumière (2010) conducted a meta-analysis of 59 individual studies comparing male adolescent sex offenders (n = 3,855) and non-sex offenders (n = 13,393) to test specialized and generalist explanations of sexual offending. Although general delinquency risk factors (antisocial tendencies) serve to explain sexual offending, these are is not sufficient to understand sexual offending. That is, risk factors highlighted in special explanations for sexual offending (e.g., atypical sexual interests, sexual abuse history, social isolation, early exposure to sex or pornography) were supported. Indeed, the largest group differences were obtained for atypical sexual interests, sexual abuse history, criminal history, antisocial associations and substance abuse (ranked by effect size). These results highlighted the complex nature of sexual offending and identified possible risk factors for sexual recidivism among sexually offending youth, thus assisting the development and evaluation of risk assessment measures for this population.

Importantly, the use of adult risk assessment tools with youth or the downward extension of adult constructs should be avoided without understanding the developmental changes occurring during adolescence and the role multiple surrounding contexts play on youths' development (see section 1.4 for a review of key aspects of adolescent development). Although the present section has focused on risk factors for sexual and nonsexual recidivism among sexually offending youth, professionals have also stressed the importance of assessing factors that protect against risk for violence (Rich, 2009; Worling & Langton, 2012).

Following the selection of factors associated with sexual (and nonsexual) recidivism, one must decide how to use such information to make judgments about a youth's risk for future violence. Understanding the different methods of violence risk assessment is essential to accomplish this challenging task.

2.1.3 Risk Assessment with Youth Who Have Sexually Offended

The prediction of future violence is a complex task; indeed, even when utilizing empirically supported risk assessment tools, judgments about an individual's risk to reoffend are fallible. Advances in research identifying factors associated with an increased risk for future violence, along with methods used to combine risk factors to estimate risk for future violence,

have provided professionals a strong basis for making sound decisions. Methods used to assess risk for future violence have both strengths and weaknesses; therefore, a thorough understanding of these methods is essential to appreciate the rationale for developing the VRS:YSO, as well as its uniqueness as a risk assessment measure. Consequently, the following areas were addressed: (a) goals of a risk assessment, (b) methods for assessing violence risk, and (c) review of the theoretical basis that guided the development of the VRS:YSO.

2.1.3.1 Violence risk assessment: Concepts and goals.

To understand the meaning of violence risk assessment, it is important to define the concepts of *risk*, *violence*, and *assessment*. *Risk* is the "possibility or probability that something adverse may happen" (Gerhold et al., 2007, p. 428). Predicting the occurrence of an adverse event (e.g., probability that an individual will engage in violence) is troublesome and involves a reasonable degree of uncertainty (Hart, 2001; Hart, Michie, & Cooke, 2007). In addition, risk is not a unidimensional concept. It involves multiple aspects of the adverse event such as its nature, its likelihood of occurrence, its frequency and duration, its imminence, and its possible negative outcomes on others (Hart, 2001). Risk also depends on its surrounding context; for instance, individuals' risk for violence can increase if they live in an environment that provides accessibility to potential victims and/or condones offending behaviour (Hart, 2001).

One aspect of risk is to identify its nature. That is, to specify the adverse event the assessor attempts to predict, which within the forensic field it refers to violence (Hart, 2001). *Violence* is the "actual, attempted, or threatened physical harm of another person that is deliberate and nonconsensual" (Hart, 2001, p. 13).

In the mental health field, *assessment* is the process of gathering information about individuals to make decisions (Hart, 2001). Information comes from multiple assessment methods, areas of individual functioning, and contexts. Triangulation of data allows the assessor the opportunity to make a thorough and hopefully fair assessment of the individual. Within forensic contexts, these assessments, referred to as violence risk assessments, guide legal decision-making including custody release and conditions, institutional security classification, management strategies (e.g., treatment), legal designations such as Dangerous Offender in Canada, and continued incapacitation following sentence expiry (i.e., civil commitment of dangerous persons in the United States) (Hart, 2001; Heilbrun, Ogloff, & Picarello, 1999).

Considering the definitions of *risk*, *violence*, and *assessment*, Hart (2001) defined *violence risk assessment* as the "process of evaluating individuals to characterize the risk they will commit acts of violence and develop interventions to manage or reduce that risk" (p. 14). It is important to understand the reasons for committing violent acts and the nature of the violent acts for professionals to identify factors that contributed to individuals' decisions to act violently (e.g., cognitive distortions, emotion dysregulation) and determine whether these factors could lead individuals to act violently again (Hart, 2001). Indeed, violence risk assessment is a challenging task with high stakes for the assessee, the assessor, and society.

When youth who sexually offend enter the legal system, decisions regarding their management and treatment are required to be made. A comprehensive violence risk assessment becomes critical because it informs about a youth's risk for future violence and guides treatment planning (Worling & Curwen, 2001). Both elements are necessary to address the ultimate goal of violence risk assessment, which is the prevention of future violence (Hart, 2001).

Hart (2001) outlined three additional goals of a violence risk assessment. First, a well-conducted risk assessment should produce reliable results where different professionals render similar conclusions following their assessment of the same individual within the same timeframe. Second, a well-conducted risk assessment should identify the individual's needs and provide recommendations of interventions that could address those needs thus helping to manage the individual's risk for violence. Third, a well-conducted risk assessment should be transparent. That is, professionals must clearly articulate the basis for their opinions so that others, including the assessee, can review or even challenge those opinions if necessary. Transparency protects the assessor, the assessee, and society as it ensures that proper standards and procedures are used in deriving a professional opinion.

Overall, violence risk assessment serves multiple purposes and carries high stakes for all those involved. Therefore, it is important for professionals to familiarize themselves with the strengths and weaknesses of the different methods used to assess violence risk so that they can determine which method(s) can best meet the goals of a risk assessment.

2.1.3.2 Methods of violence risk assessment.

The methods of violence risk assessment fall into two categories: professional judgment and actuarial; the main distinction lies on how the information is weighted and combined to render a professional opinion about an individual's risk for violence (Hart, 2001). The

professional judgment method involves variability in the degree of discretion assessors can use in their decision-making process. Procedures falling within the professional judgment method include the unstructured professional judgment, anamnestic risk assessment, and structured professional judgment. On the contrary, the actuarial method involves the combination of data in an explicit and fixed manner thus giving assessors no discretion in their decision-making process. Procedures falling within the actuarial method are the actuarial use of psychological tests and actuarial risk assessment (Hart, 2001; Prescott, 2004).

2.1.3.3 Professional judgment method.

2.1.3.3.1 Unstructured professional judgment (UPJ).

The unstructured professional judgment procedure (UPJ) refers to judgments about an individual's risk for future violence based on intuition and experience (Hart, 2001; Prescott, 2004; Worling & Curwen, 2001). Grove and Meehl (1996) referred to this procedure as "informal, subjective, and impressionistic" (p. 293). Although decisions based on professional intuition and experience are highly adaptable and person-centered, there are major problems with the reliability and validity of such decisions (Hart, 2001). For example, if professionals do not structure their decision-making process, then it is difficult to determine the basis for their decisions thus leading to poor consistency in professional judgments. Furthermore, professionals basing their decisions on personal experience and intuition tend to frame their risk judgments as dispositional statements such as "Patient X is a dangerous individual," as opposed to make statements and hypotheses about the individual's future behaviour depending on his or her release conditions (Hart, 2001).

Concerns about the UPJ procedure are beyond theoretical arguments as empirical findings fail to support the accuracy of this procedure. For instance, Hanson and Morton-Bourgon's (2009) meta-analysis reported that the UPJ procedure had weak associations with violent recidivism (Cohen's d = .22, 95% CI = .15-.29, k = 7) and any recidivism (Cohen's d = .11, 95% CI = .06-.17, k = 9) among sexually offending adults. Furthermore, the UPJ procedure was less accurate in predicting sexual recidivism than actuarial or mechanical procedures. Overall, there is limited empirical evidence supporting the use of the UPJ procedure for assessing violence risk with individuals who sexually offend.

2.1.3.3.2 Structured professional judgment (SPJ).

The structured professional judgment (SPJ) procedure addresses the limitations of the UPJ procedure by providing guidelines for gathering information to assist professionals make decisions about an individual's risk for future violence (Hart, 2001; Prescott, 2004). The guidelines define the specific risk measured, discuss the qualifications needed to conduct an assessment, and recommend the types of information needed for the assessment and methods for obtaining it (Hart, 2001). Items from the scientific and professional literature associated with a specific risk outcome are included in risk assessment measures following the SPJ procedure (Hart, 2001; Prescott, 2004). These risk assessment measures also allow for the inclusion of additional information beyond the identified risk factors, which helps professionals account for factors that are unique to an individual's risk for future violence (Prescott, 2004). Professionals consider the combination of risk factors to make final judgments of *low*, *moderate*, or *high* risk for future violence (Hart, 2001; Prescott, 2004; Worling & Curwen, 2001). Examples of the SPJ procedure for adult offenders who sexually offend include the *Sexual Violence Risk-20* (SVR-20; Boer, Hart, Kropp, & Webster, 1997) and the *Risk for Sexual Violence Protocol* (RSVP; Hart, Kropp, Laws, Klaver, Logan, & Watt, 2003). For sexually offending youth, the ERASOR (Worling & Curwen, 2001) fits within the SPJ procedure.

Aside from *static, historical, or unchangeable risk variables*, SPJ risk assessment measures include *dynamic risk variables*. For instance, the ERASOR includes *dynamic risk variables*, such as deviant sexual interests, lack of intimate peer relationships/social isolation, and high-stress environment. *Dynamic risk variables* are "changeable or potentially changeable factors that can be influenced or changed by psychological, social, or physiological means, such as treatment intervention" (Wong & Gordon, 2006, p. 283). The distinction between *static* and *dynamic risk variables* is critical because risk is dynamic, not static or fixed. Indeed, research indicates that treatment can reduce sexual offending among youths (e.g., Borduin et al., 2009; Hanson et al., 2009; Reitzel & Carbonell, 2006; Walker, McGovern, Poey, & Otis, 2004; Worling & Curwen, 2000), presumably by lowering their risk for sexual violence. *Dynamic risk variables* not only predict sexual recidivism, but also serve as treatment targets thus recognizing that risk to reoffend can fluctuate (Olver et al., 2007; Worling & Curwen, 2001).

Risk assessment measures comprised only of *static risk variables* place the prediction of sexual recidivism as a priority; whereas measures that incorporate *dynamic risk variables* move

beyond prediction by assisting treatment providers identify areas that require intervention. The inclusion of *dynamic risk variables* reinforces the link between assessment and treatment. This mode of conceptualization is essential given the positive research findings on treatment outcome with youth who have sexually offended.

Research on the predictive validity of SPJ risk assessment measures is positive. For instance, Hanson and Morton-Bourgon (2009) found that the predictive performance of the SPJ approach fell between the UPJ approach and actuarial risk assessment for various forms of recidivism among sexually offending individuals (for sexual, Cohen's d = .46, 95% CI = .29-.62, k = 6; for any violence, Cohen's d = .31, 95% CI = .13-.49, k = 3; and for any offence, Cohen's d = .26, 95% CI = .11-.41, k = 4). However, the authors noted great variability across findings in the small number of studies included in the meta-analysis. Further research could help determine the relative accuracy of this procedure compared to other methods. It is also important to distinguish the predictive accuracy of the derived risk categories using the SPJ procedure and the summation of risk items to obtain a total score, which is a method not intended by the developers of the SPJ procedure and used by some evaluators to make risk judgments.

Overall, compared to the UPJ procedure, the SPJ procedure improves the reliability and value of risk judgments by structuring professionals' decision-making process, as well as increasing professionals' accountability by improving the transparency of their decision-making (Hart, 2001). Evidence on the usefulness of this procedure, albeit limited, is positive so far. Although some evaluators embrace this "middle-ground" procedure, others express their dislike due to the inability to use intuition in the decision-making process or the lack of objectivity found in actuarial procedures (Hart, 2001).

2.1.3.4 Actuarial method.

2.1.3.4.1 Actuarial risk assessment.

The aim of actuarial risk assessment is the prediction of "a specific outcome in a specific population over a specific period of time" (Hart, 2001, p. 20). Items in actuarial risk assessment measures are selected based on their ability to predict an outcome of interest. Items are weighted and combined according to fixed algorithms to estimate the specific probability or absolute likelihood of future violence (Hart, 2001; Hart et al., 2007). These algorithms are developed from data of groups known to exhibit that outcome, namely recidivists and nonrecidivists (Hart et al., 2007).

Hart et al. (2007) stated that results from actuarial risk assessment measures are usually interpreted using inductive logic. That is, in the developmental samples of Test X, Z percentage of people with scores in Category Y were known to have reoffended violently during a specific follow-up period. Test X is used with Mr. Jones, and he obtains a score that falls in Category Y. Therefore, Mr. Jones' risk to offend violently in the future is similar to the risk of people in Category Y. Given the statistical nature of actuarial risk assessment and the disregard for professional opinion in determining risk, the actuarial approach is described as "formal, "mechanical, and algorithmic" (Grove & Meehl, 1996, p. 293).

Actuarial risk assessment measures typically contain *static, historical, or unchangeable risk variables*; these are variables fixed in an offender's history (Prescott, 2004). For instance, the J-SORRAT-II (Epperson et al., 2005), a risk assessment measure developed for use with sexually offending youth, is composed solely of *static risk variables* such as number of adjudications for sex offences and number of different victims in charged sex offences. The Static-99 (Hanson & Thornton, 1999), a commonly-used risk assessment measure with adults who sexually offend, is also composed of *static risk variables* such as prior sentencing dates, any noncontact offences, and any male victims. *Static risk variables* are selected based on their ability to predict sexual recidivism; however, these variables are not amenable to psychological intervention due to their inability to change. As a result, risk assessment measures that rely completely on *static risk variables* provide limited information to guide treatment planning and lead to an assessment of risk that is unchangeable (Olver et al., 2007; Worling & Curwen, 2001).

Hart et al. (2007) argued that disregarding the margins of error in risk estimates challenge the precision of violence predictions using actuarial risk assessment measures. Specifically, Hart and colleagues calculated the 95% confidence intervals (CIs) for group and individual estimates for the risk categories of two well-known adult actuarial risk assessment measures, namely the *Violence Risk Appraisal Guide* (VRAG; Harris, Rice, & Quinsey, 1993) and the Static-99. At the group level, the margins of error for risk estimates using both measures were large; in addition, there was an overlap among the 95% CIs suggesting that a small number of distinct group risk estimates could be identified. At the individual level, the 95% CIs for risk categories using both measures were larger compared to those at the group level, and all CIs overlapped, thus bringing into question the validity of results for making individual predictions. Together, these results

highlighted the limitations of interpretations based on actuarial risk assessment measures and the inherent difficulty in predicting future behaviour.

Three additional concerns about actuarial risk assessment measures warrant attention. First, item weights are not always consistent with perceptions of risk. For example, offenders who have caused severe victim injury such as death and hospitalization obtain a lower risk score in Item 10 of the VRAG. Second, there is a need for cross-validation research on risk estimates by independent researchers, especially when making long-term predictions. Third, the representativeness of the developmental samples is questionable at times (Hart, 2001; Hart et al., 2007).

Despite these issues, several studies have shown that actuarial risk assessment measures significantly predict sexual recidivism. For instance, Barbaree, Seto, Langton, and Peacock (2001) examined the predictive validity of various adult actuarial risk assessment measures such as the VRAG, the *Sex Offender Risk Appraisal Guide* (SORAG; Quinsey, Harris, Rice, & Cormier, 1998), and the *Rapid Risk Assessment for Sex Offender Recidivism* (RRASOR; Hanson, 1997). Barbaree and colleagues found the VRAG and the SORAG to be the strongest predictors of future violence, and the RRASOR to be the strongest predictor of subsequent sexual violence among adults who sexually offend. Hanson and Thornton (1999) found the Static-99 to be more accurate than the RRASOR in predicting violent and sexual recidivism among sexually offending adults. In a recent meta-analysis of 118 distinct samples (45,398 sexual offenders), Hanson and Morton-Bourgon (2009) reported that the actuarial method of risk assessment (i.e., empirical and mechanical derived actuarial measures) were significantly more accurate than the UPJ approach at predicting sexual, violent, and any recidivism.

Overall, research findings support the predictive validity of actuarial risk assessment measures and their improvement over the UPJ approach. Actuarial risk assessment measures are developed using statistical techniques to select the best predictors of future violence. Items are weighted and combined according to fixed algorithms to provide probabilistic estimates of future violence. The actuarial risk assessment approach has limitations that demand consideration when selecting appropriate risk assessment measures for use with specific groups of offenders and when interpreting assessment results.

2.1.3.5 New methods for assessing risk for sexual recidivism.

Several authors have highlighted the importance of *dynamic risk variables* in the assessment of risk for future violence (e.g., Douglas & Skeem, 2005; Hanson & Harris, 2000a, 2000b; Hanson & Morton-Bourgon, 2005; Prescott, 2004; Worling & Curwen, 2001). Wong and Gordon (2006) asserted that, for *dynamic risk variables* to be useful, it is important to show that these variables are changeable and that these changes are associated with changes in risk for subsequent reoffending. That is, positive treatment change should be associated with a reduction in risk. However, positive treatment change also depends on youths' readiness to change their offending behaviour (e.g., motivation), and research shows that tailoring interventions to the individual's motivational level leads to better treatment outcomes (Prochaska & Norcross, 2001). Consequently, a risk assessment tool that includes a mechanism for assessing readiness to change would be particularly useful, given the importance of this construct for both risk assessment and treatment outcome.

Although there is no adolescent risk assessment measure that includes *static* and *dynamic risk variables*, as well as a *mechanism for assessing readiness to change*, there is one adult risk assessment measure that fulfills this purpose. The *Violence Risk Scale–Sex Offender Version* (VRS–SO; Wong, Olver, Nicholaichuk, & Gordon, 2003) is an instrument designed to assess risk for sexual violence pre-and-post-treatment, to identify treatment targets by assessing *dynamic risk variables*, and to assess changes in risk using a modified version of Prochaska, DiClemente, & Norcross's (1992) transtheoretical model of readiness and commitment to change. The VRS–SO is a unique risk assessment measure because it "integrates sex offender risk assessment and treatment planning, including the assessment of change, within a single instrument" (Olver et al., 2007, p. 319).

The VRS–SO (Wong et al., 2003) is a 24-item rating scale designed to assess risk for sexual violence among adults who have sexually offended. It contains seven *static risk variables* and 17 *dynamic risk variables*. Each risk item is rated on a 4-point Likert-type scale (ranging from 0 to 3), where higher ratings indicate greater prevalence of risk factors associated with an increased risk for sexual recidivism. For the dynamic items, once a risk factor is considered present (i.e., treatment target), a rating is made based on its degree of seriousness, where a score of 2 is less serious than a score of 3. If a risk factor is absent and/or considered a nonissue for the assessee, then a score of 0 is given. A score of 1 is less positive than 0, but still indicates that this

is not a treatment target for the individual. Thus, ratings of 2 or 3 reflect problem areas that are strongly associated with sexual recidivism and are treatment targets.

For identified problem areas, the assessor rates the pre-treatment Stages of Change to assess the individual's motivation and readiness to change. The assessment of change incorporated in the VRS–SO is based on the Transtheoretical Model of Change (TTM; see Prochaska et al., 1992), which is a well-validated model used to understand the change process of clients with various behavioural problems. According to this model, individuals who modify their problem behaviours progress through five stages: precontemplation, contemplation, preparation, action, and maintenance. Following treatment, the post-treatment Stages of Change is rated for all identified treatment targets (i.e., items with scores of 2 or 3 at pre-treatment). Progression from one stage to the next stage reflects improvement and receives a decrease in risk rating of 0.5 for each stage. Subtracting the post-treatment Stage of Change rating from its pre-treatment score, results in a post-treatment VRS–SO score for each identified treatment target.

In a study of 321 adult male sex offenders who participated in a treatment program, Olver et al. (2007) found support for the psychometric properties of the VRS–SO. An exploratory factor analysis (EFA) on the Dynamic portion of the VRS–SO revealed a three-factor structure: Sexual Deviance, Criminality, and Treatment Responsivity. Only two items showed an uninterpretable pattern of factor loadings that precluded them from inclusion in the derived factors: Intimacy Deficits and Emotional Control. The Dynamic portion of the VRS–SO, pre-treatment and post-treatment, and its derived factors obtained good to excellent agreement among raters (intraclass correlation coefficients or ICCs = .66 to .80). The internal consistency for the Dynamic (pre-treatment) and Static portions of the VRS–SO, its combined Total pre-treatment score, and its derived factors, fell within the acceptable range (Cronbach α's = .67 to .87). Lastly, the Static and Dynamic portions of the VRS–SO were positively and significantly correlated with the Static-99 (r's = .35 to .70), with the Static items in the VRS–SO obtaining the highest correlation coefficient. Overall, these results provided strong support for the factor structure of the VRS–SO, as well as its interrater reliability, internal consistency, and concurrent validity.

Olver and colleagues (2007) also found support for the predictive validity of the VRS–SO. The Static and Dynamic (pre-and-post-treatment) portions of the VRS–SO, as well as the total and derived factor scores (pre-and-post-treatment) significantly predicted sexual recidivism

(*r*'s = .12 to .36; AUC's = .58 to .74, with most AUC values falling within the moderate range). Furthermore, the Criminality factor (pre-and-post treatment scores) was positively and significantly associated with nonsexual violent recidivism, and the association between the Sexual Deviance factor (pre-and-post-treatment scores) and nonsexual violent recidivism was negative. Cox regression analyses revealed that the Dynamic portion of the VRS–SO significantly contributed to the prediction of sexual recidivism over and above that of the Static portion of the VRS–SO and the Static-99, providing further support for the value of *dynamic risk variables* in the prediction of sexual reoffending. Lastly, Olver et al. found support for the use of the VRS–SO for treatment purposes; namely that *dynamic risk variables* are indeed dynamic, and that changes in *dynamic risk* are associated with reductions in sexual recidivism.

Considering the uniqueness of the VRS–SO, there is a need to develop and validate a risk assessment tool for youths that not only predicts sexual violence, but that also guides treatment planning, assesses readiness to change, and evaluates whether positive changes in risk are linked to reductions in risk for sexual recidivism. The development of a risk assessment measure that meets all of these needs bridges the areas of assessment and treatment of youths who have sexually offended; in addition, it directly addresses the ultimate goal of a risk assessment, namely the prevention of future violence (Hart, 2001).

2.1.4 Adolescent Development and Risk Assessment

The development of risk assessment measures or revisions of existing adult measures for use with youths must consider the developmental processes adolescents experience. Adolescents are not simply "younger" adults. A myriad of changes occur throughout adolescence that eventually lead to the consolidation of various developmental issues and prepare adolescents to face the challenges of adulthood. Changes in one area of development do not occur in isolation, but typically lead to, or co-occur with, other developmental changes. Adolescents are understood more completely when the context of their surrounding environments such as family, school, workplace, and community are considered (American Psychological Association, 2002).

Knowledge about normative adolescent development guides the identification of problem areas or deficits that might place adolescents at high-risk for future violence. This knowledge base also highlights the importance of imposing a time limitation to the validity of assessment results (Rich, 2009; Worling & Langton, 2012), in light of the rapid developmental changes occurring throughout adolescence and the *dynamic* nature of risk. Equally important, the

discipline of developmental psychopathology presents several concepts that could further complicate the assessment of risk and characterological problems in adolescents. The present section reviews developmental changes in multiple areas of functioning, with a particular focus on issues that may be relevant for the assessment of risk for sexual violence.

2.1.4.1 Sexual development in adolescence: Puberty and sexual behaviours.

When adolescent males enter puberty, the process of sexual maturation begins with testicular enlargement between age 11 or 12; spermarche occurs between ages 12 and 14, and the onset of secondary sexual characteristics such as body and facial hair begin later in puberty (American Psychological Association, 2002). Nonetheless, hormonal changes initiate between ages six and eight for both males and females, starting with elevations of adrenal androgens, estradiol, and cortisol; such hormonal changes affect brain development and maturation (Ponton, & Judice, 2004).

Bancroft (2006) stressed that changes associated with puberty, growth spurt, and sexual maturation, lead to a transient state of confusion about one's gender identity that requires reestablishment and revalidation. Irregularities in the physical development of boys compared to same age peers place them at risk for various behavioural problems. For instance, early maturing boys are more likely to be involved in sexual activity, smoking, or delinquency; whereas late maturing boys are more likely to experience mental health problems such as depression, parental conflict, or school problems (American Psychological Association, 2002; Ponton, & Judice, 2004).

There is limited knowledge on what constitutes normal versus abnormal sexuality among adolescent males. However, studies focusing on the onset of early sexual behaviours provide insight on normal sexual development. For example, a study on the first sexual experiences of male university students between ages 18 and 22 uncovered that 70% experienced sexual arousal prior to puberty (*M* age = 8.8 years), 67% reported sexual attraction before puberty (*M* age = 11 years), and 55% reported the onset of sexual fantasies before puberty (*M* age = 10.8 years), with the remaining students reporting sexual fantasies post-puberty (*M* age = 12.6 years; Bancroft, 2006). These findings suggest that the onset of sexual interest and expression of sexual behaviours begins in childhood. Indeed, Moser, Kleinplatz, Zuccarini, and Reiner (2004) stated that sexual behaviours are typical of children, with prepubescent children masturbating and having orgasms, and that sexual play is driven primarily by curiosity as opposed to sexual desire.

Although most healthy adolescents have an interest in sexuality and experience sexual desires/fantasies, as well as masturbate, Moser and colleagues (2004) stressed that several indicators can help understand the meaning of unusual sexual interests. The *frequency of sexual behaviours* is important for determining whether an adolescent experiences sexual preoccupations and/or engages in compulsive sexual behaviours. Although it is common for adolescents to become overly interested in specific activities, sexual preoccupations can become so intense that they displace other competing interests from the adolescent's life. *Difficulties controlling sexual expression* can become so intense that they interfere with other areas of functioning. Problems in this area can be determined based on the underlying intention and preference of the sexual behaviour. One criterion for healthy sexual expression is the sexual activity between *consenting* individuals. Consequently, adolescents who engage in sexual activity with nonconsenting individuals are likely to be exhibiting unusual sexual behaviours.

Moser et al. (2004) noted that sexual behaviours and sexual orientation are more fluid than commonly believed. Experimentation, peer pressure, and/or curiosity might underlie the basis for a range of *nonheterosexual interests*; therefore, it is important to assess individuals' motivation for their sexual interests. Sexual behaviours and *sexual interests involving atypical sexual stimuli* such as sadomasochistic activities, cross-dressing, and fetishism might be transitory; however, for some individuals these sexual behaviours become part of an enduring pattern of sexual interest. Certain sexual behaviours and/or interests are typical of certain age groups; therefore, determination that such behaviours or interests are unusual depends on the sex and age of those involved. For example, recurrent exhibitionism is common behaviour in 10 to 12-year-old males, but persistent exhibitionistic behaviour in middle or late adolescence is a rare occurrence.

The surrounding social and cultural contexts also seem to influence the development of sexual behaviours and/or responses to sexuality. For instance, a study revealed that boys who did not follow traditional masculine behaviours (between ages 3 to 10) reported increasing sexual anxiety, became less involved in early dating, and exhibited avoidance of erotic behaviour in adolescence (Bancroft, 2006).

Another area of importance is the paradoxical association between negative mood states and sexual interest (Bancroft, 2006). Specifically, there is a small group of individuals, regardless of sex, sexual orientation, and gender, who experience an increase in sexual interest in

negative mood states. For instance, there are reports of co-occurrence of affective disorders and maladaptive "sexual compulsions" or "sexual addictions" though it is unknown when such pattern becomes initially established. Interestingly, Bancroft (2006) described a study in the early 1940s where boys, ages 10 to 12, reported having erections to a range of nonsexual stimuli (e.g., flying in an airplane, wrestling with a friend). This phase of nonspecific genital responsiveness was transitional for the boys; indeed, many of them soon developed a more focused sexual response pattern due to discriminatory learning. Childhood sexual abuse is hypothesized to interfere with this sexual learning process and contribute to the association between negative mood states and sexual interests and responses.

According to Bancroft (2006), socialization with an appropriate peer group is likely to contribute to the development of sexual preferences. Specifically, unusual sexual preferences such as those described in many of the paraphilias, are more likely to develop in isolated individuals. Peer relationship problems might disrupt the discriminatory sexual learning process and provide an opportunity for the establishment of unusual sexual preferences. Problems forming intimate relationships present at a later age further disturb the development of "mature" sexuality.

Overall, the interaction between biological and cognitive processes (e.g., sexual understanding, sexual thinking, and sexual meanings attributed to physiological responses) along with social influences that shift from parents to peers, influence adolescent sexual development (Bancroft, 2006). The differentiation between normative and unusual sexual behaviours and interests is difficult to determine and there are limited data available to guide such judgments. Nonetheless, relevant aspects of sexuality such as sexual activities involving nonconsenting individuals, frequency of sexual behaviours, and regulation of sexual expression, can inform decisions about what constitutes unusual sexual behaviours and interests in adolescents.

2.1.4.2 Brain development in adolescence: Brain maturation and vulnerability.

Maturational brain processes are ongoing throughout adolescence and these changes affect the developmental rate of behavioural, cognitive, and affective systems (Steinberg, 2005). Specifically, changes in brain morphology and functioning in areas and systems associated with response inhibition, risk and reward perception and appraisal, as well as emotion regulation are a major part of the developing brain. Furthermore, it appears that changes associated with the onset of puberty (e.g., increasing emotional arousal, sensation seeking, and reward orientation)

occurring in early adolescence precede adolescents' ability to achieve regulatory competence, which is a developmental process that is dependent on the maturation of frontal lobes and occur in late adolescence. Central executive functions involving cognitive and affective processes control the development of regulatory competence. Consequently, adolescents may be facing a vulnerable period where they are unable to regulate competently arousal and motivational changes resulting from puberty (Steinberg, 2005).

2.1.4.3 Social development in adolescence: Peer and family relationships.

One of the major changes in adolescence is the attentional shift from the family to the peer group. Such change does not indicate that family closeness and attachment is less important for the positive development of adolescents; it is a healthy way of gaining parental independence (American Psychological Association, 2002). Peer relationships serve multiple purposes throughout adolescence. For instance, peer identification assists in the development of values and moral judgment. Peer group contact also helps develop a sense of identity, provide information about the world outside one's familial context, and inform adolescents about their social status such as popularity and acceptance (American Psychological Association, 2002).

Adolescents have a need to belong to their peer groups (American Psychological Association, 2002). Peer acceptance has been associated with positive psychosocial adjustment in adolescence (e.g., increasing feelings of self-worth, better school performance); whereas, peer rejection and/or social isolation has been linked to negative outcomes such as mental health issues, school problems, aggression, and delinquency (American Psychological Association, 2002). The development and maintenance of friendships imply that adolescents have the basic social skills to build friendships, and peer groups provide a social context to enhance those skills. Social skills deficits may lead to rejection, which in turn could lead to externalizing and/or internalizing problems (American Psychological Association, 2002). By late adolescence (ages 17 to 18), one-on-one relationships become more important than peer groups (American Psychological Association, 2002). At this point, adolescents with social skills deficits would have difficulty meeting their intimacy and sexual needs due to their inability to build intimate relationships, which could lead some adolescents to focus their attention on less intimidating individuals such as children and/or rely on other stimuli to fulfill their needs.

Positive familial relationships including a strong sense of attachment are associated with positive developmental outcomes (American Psychological Association, 2002). For instance,

adolescents who have parental relationships that are typical of a secure attachment style are less likely to engage in aggressive, antisocial, and high-risk behaviours such as substance abuse (Doyle, Moretti, Voss, & Margolese, 2000). Having positive family relationships is a protective factor for various forms of maladjustment including violence risk (Doyle et al. 2000; Reppucci, Fried, & Schmidt, 2002).Moreover, a parenting style that balances between providing adolescents with strict guidelines and rules along with warmth and support promote healthy development (American Psychological Association, 2002).

2.1.4.4 Behavioural development in adolescence: Risk-taking.

As part of normative adolescent development, adolescents engage in exploratory behaviours to develop their identities, practice newly acquired decision-making skills, attempt to obtain peer acceptance, and develop realistic appraisals of themselves, others, and the world (American Psychological Association, 2002). Nonetheless, behavioural experimentation could also bring negative outcomes to adolescents who tend to overestimate their capacities to deal with new situations and engage in risk-taking behaviours such as substance use, delinquency, and sexual behaviours (American Psychological Association, 2002). Increases in sensation seeking, risk-taking, and recklessness among adolescents are also associated with pubertal maturation (Steinberg, 2005), indicating that the process of puberty increases adolescent vulnerability for engaging in risk-taking behaviours.

There is a difference between normal experimentation and problematic behaviour in adolescents such as school failure, substance abuse, delinquency, and risky sexual behaviours (American Psychological Association, 2002). Relevant factors that can help differentiate normative from trouble developmental periods include early onset of high-risk behaviours; frequency, duration, and multiplicity of high-risk behaviours; and surrounding social context (American Psychological Association, 2002).

2.1.4.5 Cognitive development in adolescence: Cognitive competencies.

Adolescents experience dramatic changes in their cognitive competence. Specifically, they experience an increasing ability to think abstractly, hypothetically, and symbolically; as well as to engage in logically reasoning, reflection, and future planning (American Psychological Association, 2002). According to Steinberg (2005), the key to adolescent cognitive development is the advancement of various capabilities that allow adolescents to have a more conscious, self-directed, and self-regulating mind. Various prefrontal cortex regions grow and change

throughout adolescence, with linkages from the prefrontal cortex to other brain regions increasing rapidly. This complex process is guided by increasing communication among multiple brain regions (i.e., myelination process) and removing synapses (i.e., synaptic pruning process), with both processes enhancing efficiency in information processing. Importantly, these changes appear to underlie advancement in executive functioning including long-term planning, self-evaluation, self-regulation, and metacognition (Steinberg, 2005).

Although adolescents undergo rapid changes in their cognitive abilities, their brains are continuing to develop; therefore, they will show gaps in their cognition. For instance, adolescents may derive to conclusions that do not necessarily follow from premises, rush to conclusions, and maintain self-focus instead of taking others' perspectives (American Psychological Association, 2002). Maturity of judgment influences adolescents' decision-making, with maturity levels varying individually and across developmental periods (American Psychological Association, 2002).

Social factors also affect adolescents' decision-making abilities that may result in detrimental outcomes (American Psychological Association, 2002). For example, adolescents (ages 13 to 16), youths (ages 18 to 22), and adults (ages 24 and older) showed comparable degrees of risk-taking behaviour when alone, but adolescents and youths took more driving risks compared to adults when accompanied by friends (Steinberg, 2005). It appears that adolescents (ages 16 and older) and adults share the same cognitive competencies though the former are more influenced by developmental differences in emotional and social factors such as susceptibility to peer pressure and impulse control (Steinberg, 2005). Consequently, adolescents' participation in risky activities is not simply due to limited cognitive skills as they are able to recognize and understand the risks associated with such activities, but that social factors and emotions influence decision-making abilities.

Advancing cognitive competencies contribute to adolescents' development of moral reasoning (e.g., sense of values, ethical behaviour) and participation in prosocial behaviours (American Psychological Association, 2002). Steinberg (2005) noted that adolescents' reasoning about hypothetical moral dilemmas advances over the course of adolescence, but does not translate to moral reasoning about real-life dilemmas, especially when problems are presented as personal choices instead of ethical dilemmas.

2.1.4.6 Emotional development in adolescence: Identity and emotional intelligence.

Adolescents engage in self-evaluation to establish a realistic and coherent sense of identity that is influenced by their acquired cognitive competencies, physical changes, and social relationships (American Psychological Association, 2002). Identity encompasses two separate yet related concepts: self-concept (beliefs about oneself) and self-esteem (appraisal of one's self-concept). As part of the identity formation process, adolescents experiment how they present to others and behave as a way to establish a more realistic sense of identity (American Psychological Association, 2002).

Adolescents learn to master emotional (e.g., self-awareness) and relationship skills that help them to manage stress and to interact with others effectively and sensitively (American Psychological Association, 2002). For instance, adolescents learn to recognize and label their emotions so that they can manage these emotions appropriately, namely inhibit, delay, or modify an emotion or its expression of it (American Psychological Association, 2002; Steinberg, 2005). The ability to identify one's emotions contributes to adolescents' ability to recognize others' emotions and to incorporate this information into their thinking process and use it to exert specific behaviours (American Psychological Association, 2002).

2.1.4.7 Additional developmental considerations.

The discipline of developmental psychopathology highlights three issues that are relevant to the assessment of violence risk and personality pathology in adolescents. First, the concept of *age relativity* refers to characteristics (thoughts, emotions, and/or behaviours) that are symptomatic of underlying difficulties and/or psychopathology only if these diverge from the average characteristic of individuals who are at a specific developmental stage, and if such characteristics lead to problems in the same developmental period (Cicchetti & Rogosch, 2002; Vincent & Grisso, 2005). Characteristics considered *abnormal* and *maladaptive* at one developmental stage may be *normal* and *adaptive* at another stage (Vincent & Grisso, 2005). For example, symptoms of psychopathic personality disorder such as egocentricity, callousness, sensation seeking, and irresponsibility are normative aspects of adolescent development at different stages. On the contrary, the same characteristics are less common in adulthood thus are more likely to reflect symptoms of underlying personality pathology (Seagrave & Grisso, 2002; Vincent & Grisso, 2005). The *age relativity* of symptoms also suggests that characteristics considered symptoms of problems and/or psychopathology may have different meaning for

younger and older adolescents (Vincent & Grisso, 2005). In light of potential differences across developmental stages, some investigators have examined developmental differences on the ability of risk assessment measures to predict future sexual violence among youth although this type of developmental research remains in its infancy (Viljoen et al., 2008; Vincent, Perrault, Guy, & Gershenson, 2012).

Second, *discontinuity* refers to the variability of the developmental pathways leading to the development and remission of disorders where the concepts of *multifinality* and *equifinality* are critical for understanding the emergence of these pathways (Cicchetti & Rogosch, 2002; Vitacco & Vincent, 2006; Vincent & Grisso, 2005). *Multifinality* means that diverse outcomes can evolve from the same initial point; that is, individuals sharing similar characteristics at a specific point will exhibit different developmental outcomes (Cicchetti & Rogosch, 2002). For example, some youth with inhibited or introverted personality styles may develop a psychotic disorder, anxiety, or avoidant personality disorder as adults, while others may not develop a disorder and experience limited difficulty in their daily functioning (Vincent & Grisso, 2005). The dynamic transaction of risk and protective factors (individual characteristics and environment) experienced by each individual contributes to the development of diverse outcomes over the life course (Cicchetti & Rogosch, 2002).

On the contrary, *equifinality* means that a similar outcome can develop over time from different starting points; for example, some individuals diagnosed with depression as adolescents may have a genetic predisposition for the disorder, have experienced childhood abuse or maltreatment, and/or had parents with substance use problems (Cicchetti & Rogosch, 2002). In this case, diverse processes lead different individuals to the same developmental outcome of depression. The complexity of developmental pathways leading to the acquisition of disorders in adolescence sheds light on the discontinuity of some forms of psychopathology and problematic behaviours. Thus, symptoms associated with different types of psychopathology in childhood and adolescence may not necessarily persist into adulthood (Vincent & Grisso, 2005).

Third, the expression of psychopathology can change across the life span–*heterotypic continuity* (Prescott, 2004; Vitacco & Vincent, 2006). For instance, the expression of psychopathic traits during adolescence will be different from the expression of the same traits during adulthood (Vitacco & Vincent, 2006). Therefore, downward extensions of constructs or assessment measures (including violence risk assessment) originally developed for adults to

adolescents cannot be done without considering the varying expression of symptoms associated with underlying psychopathology or problematic behaviours in adolescents.

2.1.5 General Summary

The first section reviewed the characteristics of youth who have sexually offended to obtain an in-depth understanding of the myriad of problems affecting this population and foundational knowledge on potential factors that might be associated with an increasing risk for sexual violence. The second section provided a thorough description of risk factors identified in the literature as being associated with sexual recidivism among youth who have sexually offended. Risk factors were classified into *empirically supported*, *promising*, and *possible* risk factors following Worling and Långström's (2003, 2006) guidelines. Information outlined in this section guided the developmental process of the VRS:YSO.

The third section reviewed assessment methods used to make judgments about an individual's risk for future violence, the difference between *static* and *dynamic risk variables*, and the process individuals move through to modify their problem behaviours. This process of change rests on an individual's motivation and readiness, which is *dynamic* in nature and has the potential to be positively affected through treatment. Overall, this literature served as the basis for understanding the assessment method used by the VRS:YSO, and its uniqueness compared to other methods of violence risk assessment (i.e., inclusion of a systematic rubric to assess treatment change –a modified version of the TTM). Given that multiple systems undergo dramatic changes during adolescence (Cicchetti & Rogosch, 2002), the last section reviewed various aspects of adolescent development and key concepts in developmental psychopathology that could further assist in the developmental process of the VRS:YSO, as well as highlight the unique challenges of conducting violence risk assessment with youth.

2.2 Phase II Literature Review: Comprehensive Psychometric Examination of the Violence Risk Scale: Youth Sexual Offender Version (VRS:YSO)

2.2.1 Violence Risk Assessment Measures for Youth Who Have Sexually Offended

As part of the validation process of the VRS:YSO, it is important to conduct a comprehensive psychometric examination of the risk assessment measure including its relationship with existing risk assessment measures developed for sexually offending youth (i.e., concurrent validity) and ability to predict future criminal behaviour (i.e., predictive validity). Equally important, there are a small number of studies examining the psychometric properties, including predictive validity, of existing risk assessment measures. As a result, Phase II addresses this gap in the literature. The developmental and revision processes of three commonly-cited risk assessment measures for sexually offending youth (i.e., J-SOAP-II, ERASOR, and J-SORRAT-II) are reviewed. Key studies focusing on the psychometric properties of these risk assessment measures is presented to increase our understanding on the limitations of violent risk assessment research to date, and highlight the further contributions of Phase II.

2.2.1.1 Juvenile Sex Offender Assessment Protocol-II (J-SOAP-II).

2.2.1.1.1 Development and revision processes.

The original version of the *Juvenile Sex Offender Assessment Protocol* (J-SOAP) was created at Joseph J. Peters Institute (JJPI) in Philadelphia in 1994 (Prentky, Harris, Frizzell, & Righthand, 2000; Prentky & Righthand, 2003). The J-SOAP items were selected based on literature review in five areas: (a) clinical and etiological studies on juveniles who sexually offend, (b) risk assessment and outcome studies of juveniles who sexually offend, (c) risk assessment and outcome studies of adults who sexually offend, (d) risk assessment and outcome studies for general juvenile delinquency, and (e) risk assessment studies on mixed populations of adult offenders. Given that a large proportion of sexually offending youth have a history of antisociality and delinquency, and that there is evidence supporting the continuity of antisocial behaviours from childhood to adolescence and adulthood, Prentky and colleagues believed that a scale capturing impulsive, aggressive, and conduct-disordered behaviour was required. Thus, they incorporated eight childhood problem behaviours from the Childhood and Adolescent Psychopathy Taxon scale formulated by Grant Harris and colleagues (Prentky, Harris, Frizzell, & Righthand, 2000).

The original J-SOAP comprised 23 items that were divided into four rationally developed scales: (a) Scale I: Sexual Drive/Sexual Preoccupation–four items, (b) Scale II: Impulsive, Antisocial Behavior–nine items, (c) Scale III: Clinical/Treatment–five items, and (d) Scale IV: Community Adjustment–five items. Scales I and II included *static risk variables* associated with recidivism among youth; whereas, Scales III and IV captured *dynamic risk variables* that could be altered via treatment.

A preliminary study was conducted to examine the basic psychometric properties of the J-SOAP in a sample of 96 sexually abusive juveniles (*M* age = 14.2, ranging from 9 to 20) who were referred for assessment and treatment to the Joseph J. Peters Institute in Philadelphia. These juveniles were predominantly from the inner city of Philadelphia and of low socioeconomic status. About two-thirds of the sample was adjudicated and one-third was referred from the child welfare system (nonadjudicated). The J-SOAP was rated on the whole sample as part of a comprehensive intake battery upon admission and discharge. Twelve-month follow-up data was obtained for 75 juveniles.

In brief, Prentky et al. (2000) found that interrater reliability (IRR) for all items ranged from good to excellent (*r*'s = .75-.91), except for item five (Caregiver Instability, $r = .59$). The internal consistency of the scales ranged from moderate to high (α's = 0.68-0.85). Scales III and IV items had item-total correlations $\geq .30$. On Scale II, only two out of nine items had item-total correlations $\leq .30$ (i.e., Caregiver Instability, $r = .17$ and History of Parental Alcohol Abuse, $r = .14$). On the other hand, virtually all items in Scale I had item-total correlations $\leq .30$, except for History of Predatory Behavior ($r = .09$), Evidence of Sexual Preoccupation ($r = .14$), and Duration of Sex Offence History ($r = .27$). The latter finding indicated that three out of four Scale I items had a small relationship with the J-SOAP Total risk score.

Given that only eight youths recidivated (and only three sexually offended), mean differences were examined informally. Scale I seemed the least able to differentiate between nonrecidivists and recidivists ($M = 2.14$, $SD = 2.23$ vs. $M = 2.88$, $SD = 2.64$, respectively). Scale I also appeared less able to differentiate youth on three other discharge variables: type of reoffence, juvenile placement (i.e., residential treatment facility/prison), and reasons for placement (i.e., poor community adjustment, high-risk status, or reoffended). Scale II seemed the best at differentiating between recidivists and nonrecidivists ($M = 10.25$, $SD = 4.65$ vs. $M = 8.10$, $SD = 4.15$, respectively), as well as on the three identified discharge variables. There were no

comments about the potential ability of Scales III and IV to differentiate recidivists and nonrecidivists (Scale III: *M* = 8.75, *SD* = 1.39 vs. *M* = 6.78, *SD* = 2.95, respectively; and Scale IV: *M* = 6.00, *SD* = 2.33 vs. *M* = 4.39, *SD* = 2.17, respectively). Scales III and IV appeared to differentiate offenders on juvenile placement, but not on reasons for placement (Prentky et al., 2000).

Based on initial psychometric data, the J-SOAP underwent minor revisions. For Scale I, the Offence Planning item replaced History of Predatory Behavior and included an item that captured the youth's degree of victim sexualization (e.g., use of pornography during the offence). Scale II included two additional items to assess general delinquency and anger problems (i.e., Juvenile Antisocial Behavior and History of Expressed Anger). These revisions led to a 26-item J-SOAP that was finalized in 1998 (Prentky et al., 2000; Prentky & Righthand, 2003).

Righthand, Prentky, Knight, Carpenter, Hecker, and Nangle (2005) presented findings from a series of studies examining the psychometric properties of the 26-item J-SOAP in a sample of 153 sexually offending juveniles (*M* age = 15.9, ranging from 7 to 20). These juveniles were part of a larger sample identified during a statewide risk and needs assessment carried out by the Maine Department of Corrections (DOC). The J-SOAP was rated from DOC and child welfare records. In brief, interrater reliability (IRR) for the four scales ranged from .80 to .91. Internal consistency was high for Scales II to IV (α's = .80 to .95), but Scale I showed moderate internal consistency (α = .64). Item-total correlations were ≥ .40 for 85% of the items. The lowest item-total correlations were for two items in Scale I: Prior Sex Offences (*r* = .33) and Sexualizing Victim (*r* =.33), and two items in Scale II: Substance Abuse (*r* = .27) and Parental Substance Abuse (*r* = .33).

Results from a Principal Component Analysis provided a four-component solution that was consistent with the J-SOAP four-component structure. The first component accounted for slightly over 20% of the variance and mapped perfectly on Scale II (Impulsive, Antisocial Behavior), with item loadings ranging from .44 to .77. Both items, Substance Abuse and History of Parental Substance Abuse, obtained factor loadings below the standard criterion of .50. The second component accounted for 20% of the variance and was equivalent to Scale III (Clinical Intervention) and one Scale IV item (i.e., Quality of Peer Relationships), with item loadings ranging from .83 to .88. The third component accounted for approximately 9% of the variance and was equivalent to Scale I (Sexual Drive and Preoccupation), with item loadings ranging from

.51 to .72. The fourth component accounted for about 8.5% of the variance and mapped almost precisely on Scale IV (Community Adjustment), with item loadings ranging from .46 to .78. Together, these results provided strong support for the four empirically derived J-SOAP scales.

As part of the validation process for the J-SOAP, Righthand et al. (2005) found large correlations between the Youth Level of Service/Case Management Inventory (YLS/CMI; Hoge & Andrews, 1996) Total score and Scale II (r = .81), Scale III (r = .88), Scale IV (r = .91), and the J-SOAP Total score (r = .91). These results suggested that Scales III and IV contained risk items that were consistent with the delinquency literature and that were associated with risk for general offending. Righthand and colleagues said that risk items in these scales might reflect an underlying construct of antisociality. There was a modest correlation between the YLS/CMI Total score and Scale I (r = .37) of the J-SOAP (Righthand et al., 2005). This was not surprising given that Scale I contains items that capture deviant sexual behaviour as opposed to general delinquency. Moreover, Scale I was significantly associated with number of sex offences (r = .36), number of sex offence victims (r = .64), and degree of sexual aggression (r = .27), but not with total number of offences (r = .08). Similarly, Scale II was significantly associated with total number of offences (r = .30), number of sex offence victims (r = .27), and degree of sexual aggression (r = .29), but not with number of sex offences (r = .03). Together, these findings provided preliminary evidence for the concurrent and postdictive validity of the J-SOAP.

Righthand and colleagues (2005) also examined the discriminant validity of the J-SOAP. They found that Scales I, II, and III significantly discriminated between juveniles in a residential placement and those in the community. Juveniles in the community scored, on average, lower on each of the scales compared to juveniles in a residential placement. Overall, these findings provided some encouraging evidence on the basic psychometric properties of the revised 26-item J-SOAP though there was no information on its predictive validity.

In light of the above research findings, the J-SOAP underwent another revision (Prentky & Righthand, 2003). In brief, Scale I included four additional items identified in the literature as possible predictors of sexual recidivism (i.e., Number of Sexual Abuse Victims, Male Child Victim, Sexualized Aggression, and Sexual Victimization History). One item was deleted due to low frequency and questionable additive value (i.e., High Degree of Sexualizing the Victim), and the Sexual Drive and Preoccupation item was given clearer behavioural anchors and examples.

Focusing on Scale II, History of Substance Abuse and History of Parental Substance Abuse items were deleted. Two items were combined to form School Behavior Problems. The Impulsivity item was removed from the scale because the item Juvenile Antisocial Behavior provided a better assessment of impulsivity. The Physical Assault History/Exposure to Family Violence item was added. Scale III items were revised to include attitudes and behaviors associated with nonsexual and sexual reoffending as the J-SOAP could be useful for assessing both types of recidivism. The Evidence of Empathy, Remorse, and Guilt item was divided into two items because empathy and remorse are conceptually different. The Quality of Peer Relationships item was moved from Scale IV to Scale III. Lastly, Scale IV included one new item, namely Management of Sexual Urges and Desire.

The revised version of the J-SOAP included 28 items, subsequently referred to as the J-SOAP-II. It was divided into Scale I: Sexual Drive/Preoccupation (eight items), Scale II: Impulsive/Antisocial Behavior (eight items), Scale III: Intervention (seven items), and Scale IV: Community Stability/Adjustment (five items) (see Prentky & Righthand, 2003).

2.2.1.1.2 Assessment method.

Prentky and Righthand (2003) described the J-SOAP-II as a checklist used for the systematic review of risk factors associated with sexual and nonsexual recidivism. It is designed for male youths (ages 12 to 18) adjudicated for a sexual offence or with a history of sexually abusive behaviour. The authors said that they intend to provide probabilistic estimates of risk for sexual recidivism, thus the J-SOAP-II is not yet an actuarial scale. Instead, the J-SOAP-II is best described as an empirically-informed guide for the assessment of items associated with increased risk to reoffend.

Consistent with previous versions, all J-SOAP-II items are trichotomized and considered to be of equal importance. Items in each of the four scales are added. Each total scale score is divided by the total possible score for that scale. This calculation allows one to obtain the relative "proportion of risk" for each of the four scales. All four scale scores are summed to obtain the overall J-SOAP-II score, and the same procedure is used to obtain the overall "proportion of risk," with a maximum possible score of 56 (Prentky & Righthand, 2003).

2.2.1.1.3 Validation of the J-SOAP and the J-SOAP-II.

Hecker, Scoular, Righthand, and Nangle (2002, as cited in Prentky & Righthand, 2003) obtained recidivism data for a sample of 54 sexually abusive juveniles over a period of 10 to 12

years. The J-SOAP Total score was not significantly associated with sexual recidivism, but Scale I significantly predicted this outcome (AUC = .79). Scale II did not significantly predict nonsexual recidivism (AUC = .66) though a trend was evident. Hecker and colleagues believed that a low rate for sexual (11%) and nonsexual recidivism hampered the possibility to assess the predictive ability of the J-SOAP.

In another study, Waite, Pinkerton, Wieckowski, McGarvey, and Brown (2002, as cited in Prentky & Righthand, 2003) examined the recidivism rate of 253 high-risk sexually abusive juveniles over a 9-year follow-up. The sexual recidivism rate was extremely low (4.3%) compared to the nonsexual recidivism rate (about 60%). Waite and colleagues divided the sample into two groups based on their scores on a modified version of Scale II: Low/Impulsive Antisocial (*n* = 118) and High/Impulsive Antisocial (*n* = 135). Juveniles in the High group were significantly more likely to reoffend compared to juveniles in the Low group (75% vs. 53%, respectively). Juveniles in the High group were three times more likely to be arrested for a subsequent sexual offence compared to juveniles in the Low group (10% vs. 3%, respectively) though no formal analysis was possible due to the low sexual recidivism rate.

Unfortunately, findings from these studies provide no to negligible evidence about the predictive validity of the J-SOAP for sexual recidivism. Furthermore, Righthand et al. (2005) noted that evidence for the predictive validity of Scale II for nonsexual recidivism is mixed. Most psychometric data available up-to 2005, albeit limited, was not on the J-SOAP-II. This gap in the literature was critical given that the J-SOAP underwent various revisions, and the J-SOAP-II replaced previous versions of this measure.

More recently, a handful of studies have focused on the basic psychometric properties and predictive validity of the J-SOAP-II. For instance, Martinez, Flores, and Rosenfeld (2007) obtained J-SOAP-II ratings for a sample of 60 adolescent males admitted to a community-based sex offender treatment program between 1996 and 2004 (*M* age = 14.9, ranging from 12 to 18). Fifty percent of the sample was of a Latin American background while 28.3% and 16.7% self-identified as African American and Caucasian, respectively. Family court judges referred most adolescents to the program (50%). Adolescents were accused, suspected, or found guilty of a sexual offence(s). J-SOAP-II data was collected from clinical records gathered during intake and course of treatment.

In brief, Martinez et al. (2007) found acceptable IRR for the J-SOAP-II Total (Intraclass Correlation coefficient or ICC = .70), Static Summary scale (ICC = .71), and Dynamic Summary scale (ICC = .86) scores. Reliability estimates for the individual scales were somewhat variable: Scale I (ICC = .79), Scale II (ICC = 63), Scale III (ICC = .88), and Scale IV (ICC = .42). The J-SOAP-II Total (α = .87), Static and Dynamic Summary scale (α's = .87 and 76, respectively) scores evidenced good internal consistency though there was more variability among the individual scales (α's = .69 to .90). Correlations between the J-SOAP-II Total score and the Static and Dynamic Summary scales were .87 and .88, respectively; while the correlations between the J-SOAP-II Total score and the individual scales ranged from .64 to .79. Overall, reliability analyses showed adequate reliability (IRR and internal consistency) for the J-SOAP-II Total score and Summary scales, with more variability in the individual scales.

Martinez et al. (2007) found a 20% overall reoffending rate and a 13% sexual reoffending rate. Reoffence information was based on self-report, arrest records, Child Protective Services, and/or parent or other family member report. Specifically, they found that the J-SOAP-II Total and Dynamic Summary scale (Scales III and IV) scores significantly predicted any (r_{pb} = .34, AUC = .76; r_{pb} = .33, AUC = .74, respectively) and sexual reoffending (r_{pb} = .31, AUC = .78; r_{pb} = .41, AUC = .86, respectively), and was significantly associated with number of treatment sessions attended (r_s = -.39; r_s = -.59, respectively). There was also a trend indicating that the Static Summary scale (Scales I and II) predicted any reoffending (r_{pb} = .26, AUC = .68). In sum, both the J-SOAP-II Total and the Dynamic Summary scale scores showed moderate to high levels of predictive accuracy for any and sexual reoffending, as well as moderate to high associations with treatment outcome.

Focusing on the individual scales, Scale I was not significantly associated with any of the three outcome variables (all $r_{pb's}$ < .10) and Scale II was only significantly associated with any reoffence (r_{pb} = .35). Better results followed for Scale III as it was significantly associated with sexual reoffence (r_{pb} = .27) and number of treatment sessions attended (r_s = -.59), as well as Scale IV as it was significantly associated with all three outcomes (r_{pb} = .53 for any reoffence, r_{pb} = .51 for sexual reoffence, and r_s = -.44 for number of treatment sessions attended). In general, the individual scales forming the Static Summary scale bore little relationship with the outcome variables. Scale I had no significant associations with any of the outcome variables, which brings into question its additive value to the J-SOAP-II scale (Martinez et al., 2007).

Martinez and colleagues (2007) also examined the incremental validity of the Dynamic Summary scale on the prediction of criminal outcome. The Dynamic Summary scale significantly contributed to the prediction of sexual reoffence over and above the Static Summary scale (B = .46), whereas the opposite pattern (i.e., whether the Static Summary scale predicted sexual reoffence over and above the Dynamic Summary scale) was not significant (B = -.11). For any reoffence, both scales were significant though modest predictors. However, the addition of either the Static or Dynamic Summary scale into the regression model made both scales nonsignificant predictors of any reoffending (Dynamic Summary: B = .16, p = .07 vs. Static Summary: B = .06, p = .44). These findings partly supported the predictive value of *dynamic risk variables* in the assessment of violence risk among youth, particularly for sexual violence. Altogether, Martinez and colleagues found support for the predictive ability of the J-SOAP-II in an ethnically diverse sexually offending sample, one significant limitation of their study was that raters were not blind to recidivism status. Such limitation ultimately brings into question the validity of these findings.

McCoy (2007) examined the basic psychometric properties and predictive validity of the J-SOAP-II with a sample of 128 youths referred by probation to attend an outpatient sex offender treatment program in a large southwestern United States city (M age = 15.3). Youths were from diverse cultural backgrounds: 30.5% African American, 31.3% Hispanic, 35.9% Caucasian, and 2.3% other ethnicity. To assess IRR for pre-and-post-treatment J-SOAP-II ratings, McCoy paired with each of three additional raters. Interrater reliability on the pre-treatment ratings for J-SOAP-II Total (ICC's = .99, .82, and .39) and Scale III scores (ICC's = .53, .57, and .00) was mixed because one of the raters consistently obtained a low IRR. Interrater reliability on the post-treatment ratings for the J-SOAP-II Total and individual scales were calculated for one reviewing pair. Once again, Scale III showed poor IRR (ICC = .16) compared to the J-SOAP-II Total score and the other individual scales (ICC's ranged from .64 to .87). Together, these results reflected some concerns with IRR, particularly with Scale III, which may have been partly due to rater error. Moreover, both pre-and post-treatment ratings for J-SOAP-II Total score and Scales I to III showed acceptable internal consistency (α's ranged from .70 to .88) although not Scale IV (α's .36 and .42, respectively), which was inconsistent with other studies (e.g., Martinez et al., 2007).

McCoy (2007) found that 53% of the sample was viewed as successfully completing treatment by staff; whereas, 46.5% was deemed unsuccessful and terminated from the program. Both the J-SOAP-II and the ERASOR were positively and significantly correlated with each other at pre-and-post-treatment (*r*'s = .47 and .62, respectively), providing support for the concurrent validity of the J-SOAP-II. Comparisons between pre-and-post-treatment J-SOAP-II Total and individual scales revealed that youths rated lower risk post-treatment on every scale, except for Scale II.

In a follow-up period ranging from 1.5 to 13 years, McCoy (2007) found a 5.6% sexual and 56.0% nonsexual recidivism rate. Overall, neither the J-SOAP-II (nor the ERASOR) Total score significantly predicted treatment or criminal outcome although a few J-SOAP-II scale (and ERASOR categories) scores were significantly associated with both outcomes. Focusing on criminal outcome, only the post-treatment J-SOAP-II Scale II (Impulsive/Antisocial) was significantly associated with sexual reoffending (r = .20) although the total score approached significance (r = .16, p = .09). After removing cases with low IRR, there was only a trend for Scale I (Sex Drive/Preoccupation) to be associated with general reoffending (r = -.20, p = 07). As stated above, the J-SOAP-II Total score did not significantly predict sexual or nonsexual reoffending (AUC's = .60 and .50, respectively). Lastly, there were no significant differences on J-SOAP-II Total and scale scores between youths who recidivated sexually and those who did not, except for Scale II, with recidivists obtaining significantly higher scores than nonrecidivists.

In another study, Viljoen et al. (2008) examined the predictive validity of the J-SOAP-II, J-SORRAT-II, and the Structured Assessment of Violence Risk in Youth (SAVRY; Borum, Bartel, & Forth, 2003) with a sample of 169 male youths admitted to a residential sex offender treatment program in the Midwestern United States between 1992 and 2005 (*M* age at admission = 15.37 years, *SD* = 1.51). The majority of youth were non-Hispanic Caucasian (83.4%) while others were identified as African-America (8.3%), Hispanic (4.7%), American Indian or Alaskan Native (1.2%), and mixed race/ethnicity (2.4%). Following discharge from treatment (at least 250 days prior to data collection), youth were followed-up for an average of 6.58 years (*SD* = 3.49). During treatment, about 17% (n = 28) of youths engaged in sexual aggression and 30% (n = 51) engaged in nonsexual aggression. Reoffending was conceptualized as charges; youths' juvenile justice and adult criminal records were gathered via law enforcement and probation sources, as well as treatment records. Overall, 8.3% (n = 14) committed subsequent sexual

offences, 12.7% (*n* = 21) nonsexual violent offences, 10.1% (*n* = 17) serious nonsexual violent offences, and 42.8% (*n* = 71) any offence.

Focusing on its basic psychometric properties, the IRR for the J-SOAP-II Total score fell in the excellent range (ICC_1 = .84). The average J-SOAP-II Total score was 30.91 (*SD* = 9.26). Correlations between the J-SOAP-II Total and its individual scale scores ranged from .55 to .79, with Scale III obtaining the lowest coefficient. The J-SOAP-II Total score was significantly associated with the J-SORRAT-II Total score (*r* = .28), which was primarily due to the correlations between the J-SORRAT-II Total and the J-SOAP-II Scales I (*r* = .42) and II (*r* = .26) scores as its correlations with Scales III and IV were small and nonsignificant (*r*'s = .04 and .08, respectively). Given that the J-SORRAT-II is an actuarial scale, it is not surprising that it was significantly associated with the scales forming the J-SOAP-II Static Summary scale (Scales I and II). Moreover, the J-SOAP-II Total had large and significant correlations with the SAVRY Total score (*r* = .88) and the SAVRY structured professional rating (r_s = .74). The correlations between the J-SOAP-II scales and both SAVRY Total score and structured professional rating (SPR) were high (.50 to .80), except for Scale I that obtained correlations of .31 and .35, respectively (Viljoen et al., 2008).

Regarding the predictive validity of the J-SOAP-II, Viljoen and colleagues (2008) found that only Scale I significantly predicted sexual aggression during treatment (AUC = .65). The J-SOAP-II Total and Scales II to IV scores significantly predicted nonsexual aggression during treatment (AUC's ranged from .61 to .67). Although higher AUC's were obtained for youth aged 16 to 18 than for those aged 12 to 15 on the J-SOAP-II (and the J-SORRAT-II), the predictive validity of both measures was not moderated by age.

Moreover, the J-SOAP-II Total and individual scale scores did not significantly predict sexual reoffending (AUC's ranged from .45 to .60). Only Scale II significantly predicted nonsexual violent and any reoffending (AUC's = .61 and .64, respectively), and Scales II and IV significantly predicted serious nonsexual violent reoffending (AUC's = .67 and .63, respectively). Further examination revealed that the J-SOAP-II was significantly better at predicting serious nonsexual violent reoffending among older youths, aged 16 to 18, than younger youths, aged 12 to 15 (AUC's .71 and .44, respectively; *b* = 1.19, *SE* = .57, Odds ratio = 3.30). Lastly, comparisons between the false positive rates (i.e., youth erroneously categorized as high-risk) of younger and older youths showed that younger youths were significantly more

likely to be inaccurately considered high-risk for all forms of reoffending using the JSOAP-II (Viljoen et al., 2008).

Focusing on a narrower component of the J-SOAP-II, Powers-Sawyer and Miner (2009) examined the predictive validity of its Static Summary scale (i.e., Scales I and II) in a sample of 96 youth who attended a corrections-based juvenile sex offender program in Minnesota between 1993 and 1995 (*M* age at admission to treatment = 17.2 years). Of note, this sample did not reflect a selection of youth admitted to the program; instead, these youth were chosen because chart and reoffending information was available thus reflecting a selection bias. Youth were followed post-treatment for an average of 4.29 years. The overall recidivism (defined as arrest, conviction, or parole violation) rates were 7.3% (*n* = 7) for sexual, 15.6% (*n* = 15) for nonsexual violent, and 26.0% (*n* = 25) for general nonviolent. In brief, Scales I (Sex Drive/Preoccupation) and II (Impulsive/Antisocial) predicted sexual recidivism (AUC's = .72 and .64, respectively), as well as their combined Static Summary score (AUC = .75). On the contrary, neither Scales I and II nor Static Summary predicted nonsexual recidivism. These findings provided support for the predictive validity of the Static Summary scale of the J-SOAP-II in relation to sexual recidivism.

Prentky, Pimental, Cavanaugh, & Righthand (2009) investigated the predictive accuracy of a 26-item J-SOAP-II in a child welfare sample (123 pre-adolescents = < 12 years-old, *M* assessment age = 11.62, *SD* = 2.52; and 69 adolescents = 12-17-years-old, *M* assessment age = 13.93, *SD* = 1.59) in Massachusetts. This developmental distinction was based on the variable: age of first hands-on sexual offence. In brief, youth had been removed from "abusive homes" and placed elsewhere (e.g., foster care) to manage their risk for future sexual violence. Sexual reoffense was defined as "any new inappropriate or coercive hands-on sexual behaviour" following assessment at the Assessment for Safe and Appropriate Placement (ASAP), which was responsible for evaluating youth under custody of the Department of Social Services (DSS). Outcome information was gathered via DSS (i.e., post-ASAP evaluation) and criminal records. Overall sexual reoffending rates were 30.6% of the pre-adolescent sample (*M* follow-up time = 46.95 months, *SD* = 19.03) and 23.0% of the adolescent sample (*M* follow-up time = 40.62 months, *SD* = 19.42). Of note, most youth (in both groups) reoffended within the first 24 months and higher reoffense rate was seen among pre-adolescents.

In sum, logistic regression analyses revealed that the J-SOAP-II significantly discriminated between recidivists and nonrecidivists within both groups of juveniles. The J-

SOAP-II Total score significantly predicted sexual recidivism among pre-adolescents and adolescents (AUC's .82 and .80, respectively). The predictive accuracy of the Dynamic summary scale of the J-SOAP-II (Subscales III and IV) outperformed the Static summary scale component (Subscales I and II) among both group of juveniles. The latter finding highlighted the value of *dynamic risk variables* for the prediction of violence among juveniles.

Rajlic and Gretton (2010) examined the predicted validity of the J-SOAP-II (and ERASOR) and the moderating effect of offender type (antisociality-based typology, see Butler & Seto, 2002) in a sample of 286 sexually offending youth who were referred to outpatient sex offender treatment programs across British Columbia (BC) (*M* age at admission = 15.8 years, *SD* = 1.5). Youth were primarily White (66%) and Aboriginal (26%), with the remaining sample (8%) being from other ethnicities. The average follow-up period (i.e., from the date youth were discharged from treatment to the date the BC Corrections files were obtained) was 6.6 years, with at least 12 months of follow-up. Recidivism was defined as a new charge or conviction during the follow-up period. Overall recidivism rates were 9.4% (*n* = 27) for sexual and 33.9% (*n* = 97) for nonsexual offences. Interrater reliability for the J-SOAP-II Total and scale scores was excellent (ICC_1's .80-.94). The J-SOAP-II Total score was significantly associated with the ERASOR's Total score and SPR (Pearson's *r* = .79 and .72, respectively).

In sum, the J-SOAP-II Total, Scales I, III, and IV significantly predicted sexual recidivism in the whole sample (AUC's = .64-.69); nonsexual recidivism was predicted by the same J-SOAP-II components, except Scale I (AUC's = .70-.79). Comparative analyses indicated no significant difference in the predictive accuracy of the J-SOAP-II and ERASOR Total scores in relation to sexual recidivism, though the J-SOAP-II outperformed the ERASOR in the prediction of nonsexual recidivism. Cox regression survival analyses revealed that offender type moderated the relationship between the J-SOAP-II and sexual recidivism. That is, the J-SOAP-II Total and Scales II to IV scores predicted sexual recidivism in the sex offence-only group (i.e., youth with a history of sexual offences only, AUC's = .73-.80), but not in the delinquent group (i.e., youth with a history of sexual and nonsexual offences, AUC's = .41-.59). On the contrary, the J-SOAP-II Total score significantly predicted nonsexual recidivism in both groups. These results provided evidence for the predictive power of the J-SOAP-II in relation to sexual (particularly among youth with a history of sexual offending only) and nonsexual recidivism (Rajlic & Gretton, 2010).

Focusing in non-English speaking contexts, Aebi, Plattner, Steinhausen, and Bessler (2011) conducted a retrospective evaluation of the German version of the J-SOAP-II in a sample of 223 youth convicted of at least one sexual offence between 2000 and 2008. Outcome data (adolescent and adult charges) came from the local crime registry, which was obtained after the final J-SOAP-II was administered. The average follow-up time was 4.30 years (*SD* = 2.49). About 3.1% (*n* = 7) of youth reoffended sexually while 16.6% and 44.8% reoffended nonsexually violently and generally, respectively. Reliability analyses showed that IRR for the J-SOAP-II Total, Summary and individual scales ranged from fair to good (ICC_1's = .55-.71), with Scales II and IV, and Static Summary falling < .60. The J-SOAP-II Total, Summary scales, and individual components showed acceptable internal consistency (α's ranged from .75 to .87), except for Scale I (α = .56).

Logistic regression and ROC analyses revealed that only the J-SOAP-II Scales II and IV significantly predicted sexual recidivism (OR = 1.23, AUC = .74 and OR = 1.44, AUC = .74, respectively). Furthermore, the J-SOAP-II Total, Static Summary, and Scale II significantly predicted nonsexual violent recidivism (OR's = 1.05-1.20, AUC's = .63-.68). All J-SOAP-II components significantly predicted general recidivism (OR's = 1.05-1.19, AUC's = .60-.70), except for Scales I and III. Multivariate prediction models of recidivism indicated that only Scales IV and II significantly predicted sexual and general recidivism, respectively (Aebi et al., 2011). Notwithstanding differences in sample characteristics (e.g., nonclinical, European) and versions of the J-SOAP-II, along with methodological limitations (e.g., quality of file information, source of recidivism data), the present study provided limited evidence for the predictive power of the J-SOAP-II in relation to sexual and nonsexual recidivism.

Lastly, Chu, Ng, Fong, and Teoh (2011) examined retrospectively the IRR, concurrent and predictive validity of three risk assessment measures (including the J-SOAP-II) in a sample of 104 sexually offending youth (*M* age at referral = 15.16 years, *SD* = 1.44) referred for a violence risk assessment to the Clinical and Forensic Psychology Branch (CFPB) in Singapore between 2003 and 2007. The average follow-up time was 1,637 days or approximately 4.5 years (*SD* = 491 days) and outcome data was obtained from the Criminal Records Office in Singapore.

In brief, the IRR for the J-SOAP-II Total score was excellent (ICC_1 = .77). It significantly correlated with the ERASOR's Total and SPR, as well as the YLS/CMI Total (Pearson *r*'s = .68-.71). Only Scale I predicted sexual recidivism (AUC = .72); whereas the other three individual

scales and Total scores predicted nonsexual recidivism (AUC's = .69-.79) and time to first nonsexual reoffence (for Total score, e^B = 1.13). Chu et al. also found the J-SOAP-II to be significantly better than the other two measures at predicting nonsexual outcome. Overall, the J-SOAP-II performed poorly in relation to the prediction of sexual recidivism, which was inconsistent with findings from other studies (e.g., Martinez et al., 2007; Rajlic & Gretton, 2010).

Overall, these studies provide support for the reliability (IRR and internal consistency) and concurrent validity of the J-SOAP-II though there is inconsistent evidence on the predictive validity of this measure (Total, Summary and individual scales) for sexual and nonsexual recidivism. Given the limited number of studies on the J-SOAP-II, replication of findings is paramount. Future research with larger youth samples varying in risk levels and ethnic compositions that overcome identified methodological limitations (e.g., use of multiple sources to gather outcome data, good file quality to code risk assessments, trained coders, prospective research design, and identification of moderators) would be useful to validate the J-SOAP-II as a risk assessment measure for sexually abusive youth. At this time, evidence supporting the use of the J-SOAP-II for the assessment of risk for sexual recidivism is limited.

2.2.1.2 Estimate of Risk of Adolescent Sexual Offense Recidivism Version 2.0 (ERASOR).

2.2.1.2.1 Developmental and revision processes.

According to Worling and Curwen (2000), the *Estimate of Risk of Adolescent Sexual Offense Recidivism* (ERASOR) was developed according to the empirically guided clinical judgment approach to risk assessment utilized for the development of the *Sexual Violence Risk-20* (SVR-20; Boer, Hart, Kropp, & Webster, 1997). That is, *risk variables* are chosen based on empirical evidence (and professional opinion) supporting their association with a specific outcome. The overall risk rating is a clinical judgment guided by the evaluation and combination of empirically supported risk factors present.

The ERASOR contains 25 risk factors divided into Category 1: Sexual Interests, Attitudes, and Behaviours (four items), Category 2: Historical Sexual Assaults (nine items), Category 3: Psychosocial Functioning (six items), Category 4: Family/Environmental Functioning (four items), and Category 5: Treatment (two items). Assessors can consider additional case-specific risk factors that might place youths at risk for future offending. Risk

factors being *present*, *partially/possibly present*, *not present*, or *unknown*. Assessors provide an overall risk rating of *low*, *moderate*, or *high* (see Worling & Curwen, 2000 for further details about the ERASOR).

2.2.1.2.2 Assessment method.

Worling and Curwen (2000) described the ERASOR as an empirically guided assessment measure designed to estimate risk for sexual reoffending among adolescents (12 to 18) who have sexually offended. Considering the rapid developmental changes occurring in adolescence and that most studies reviewed to identify the ERASOR's risk factors had follow-up periods no greater than three years, the authors recommended risk reassessment given that predictions are time-limited. Given that 16 out of 25 risk factors are dynamic, reassessment following intervention, passage of time, and/or any significant changes is important. Thus, the ERASOR is intended to assess short-term risk for sexual reoffending (i.e., up to 2-years), and professionals are cautioned against making long-term predictions (Worling, 2004; Worling, Bookalam, & Litteljohn, 2012).

2.2.1.2.3 Validation of the ERASOR.

Morton (2003) investigated the basic psychometric properties and predictive validity of the ERASOR in a sample of 77 sexually abusive youths who received an intake assessment at the Sexual Abuse: Family Education and Treatment (SAFE-T) program (*M* age at time of assessment = 15.22 years, *SD* = 1.47, range 12 to 18), which is a specialized community-based treatment program in Toronto. Outcome data was obtained from a national criminal record database. Recidivism was defined as any new charge(s) for sexual, nonsexual violent, and nonsexual nonviolent offences. The average follow-up time was 68.1 months (*SD* = 22.0) and started at the date of the intake assessment.

In sum, the IRR ranged from good to excellent for the ERASOR Total and Category 1 to 4 scores (ICC`s = .69 to 98), as well as SPR (ICC = .68). Internal consistency for the ERASOR Total was adequate (α = .74) though the alpha values for Categories 1 to 4 ranged from .52 to .65. The ERASOR Total score correlated significantly with two adult risk assessment measures, the *Rapid Risk Assessment for Sexual Offender Recidivism* (RRASOR; Hanson, 1997) and the STATIC-99 (Hanson & Thornton, 1999) (*r*'s = .33, and .32, respectively), as well as the YLS/CMI (*r* = .73). Further analysis revealed that Category 1 was significantly associated with Categories 2 and 3 (*r*`s = .30 and 45, respectively), and that Category 2 was significantly

associated with Category 3 (r = .47). Altogether, these findings supported the IRR and concurrent validity of the ERASOR though provided mixed evidence for its internal consistency.

With an overall sexual recidivism rate of 17% and violent recidivism rate of 26%, Morton (2003) found that the ERASOR Total and Category scores, as well as SPR did not significantly predict sexual or any reoffending. Nonetheless, the ERASOR Total (r = .25, AUC = .65) and Category 3 scores (r = .28, AUC = .67) significantly predicted any violent (sexual and nonsexual) reoffending. Furthermore, Category 3 predicted nonsexual violent (r = .33, AUC = .72) and general reoffending (r = .23, AUC = .64). In sum, these results did not support the ability of the ERASOR to predict sexual reoffending although it provided some evidence on its ability to predict other types of criminal outcome.

Worling (2004) examined the basic psychometric properties of the ERASOR in a sample of 136 males who acknowledged their sexual offense(s) and/or had been convicted of a sexual offense(s) (*M* age = 14.93, *SD* = 1.67, range = 12 to 18). These youth were assessed at one of various community-based agencies in Toronto (n = 45) or at a residential treatment centre in Minnesota (n = 91). The ERASOR was coded at intake assessment (58%), during treatment (18%), or at discharge (24%), with all ratings made by clinicians following actual clinical assessments.

Most ERASOR risk items obtained adequate item-total correlations (r's = .25 to .62). However, four items offered little contribution to the artificially created ERASOR Total score: Ever sexually assaulted same victim 2 or more times (r = .13), Threats or use of violence/weapons during the sexual offense (r = .09), Ever sexually assaulted a child (r = .17), and Environment supporting opportunities to reoffend (r = .02). IRR for the overall rating (ICC = .92) and virtually all risk factors ranged from good to excellent (ICC's = .60 to .96), except for one item (i.e., Parents not supporting sexual-offense-specific assessment/treatment, ICC = .57). Three other items also obtained suboptimal coefficients: Prior adult sanctions for sexual assaults (ICC = .52), Diverse sexual-assault behaviors (ICC = .52), and Recent escalation in anger or negative affect (ICC = .40).

Moreover, Worling (2004) found that the artificially created total score and SPR were able to discriminate between youths who had a history of previous sexual assaults (repeaters) from those without such history (nonrepeaters). Results from ROC analyses revealed that the ERASOR Total score and SPR were able to discriminate between this group of offenders

(AUC's = .72 and .66, respectively), with no significant difference in their predictive accuracy. Lastly, youths at intake and mid-treatment had significantly higher ERASOR Total scores and SPR's than youths at discharge, indicating that dynamic risk items change and that violence risk fluctuates (Worling, 2010). ERASOR Total scores were significantly higher for youths in residential treatment (M = 27.63) than those at a community agency (M = 20.88). Youths in residential treatment were significantly more likely to be rated *high* risk (60%) as opposed to *moderate* (36%) or *low* (3%) risk. The reverse pattern of findings was evident for youths at a community agency; that is, they were significantly more likely to be rated *low* (22%) or *moderate* (38%) risk as opposed to *high* risk (40%).

As part of a dissertation research, Skowron (2004) examined the basic psychometric properties and predictive validity of the ERASOR in a sample of 110 (out of 220) youths referred to the Durham Family Court Clinic (DFCC) in east Toronto (M age 14.21, SD = 1.42, range 12 to 19). Probation services in the Durham area referred most youth to the DFCC due to being high-risk and having a court order for treatment. The average follow-up period was 47.29 months (SD = 41.15), which is slightly over four years. Outcome data was gathered from a national criminal record database and recidivism was defined as re-arrest or charges for sexual, nonsexual violent, and nonsexual nonviolent offences. The overall sexual recidivism rate was 35%.

In sum, the IRR for ten risk items indicated fair to good agreement (k = .40 to .74) while the rest of items met criterion for excellent agreement ($k \geq .75$). Generally, IRR for static risk items was better than for dynamic risk items. The ERASOR Total score significantly correlated with all its individual Categories (r's = .24 to .74). The YLS/CMI Total score significantly correlated with the ERASOR Total score (r = .61) and its individual Categories (r's = .14 to .77); the highest correlation was observed for Category 3 (Psychosocial Functioning) and the lowest for Category 5 (Treatment).

Skowron (2004) found that there were significant differences between sexual recidivists and nonrecidivists on their ERASOR Total scores thus providing some support for the discriminant validity of the measure. That is, sexual recidivists obtained higher ERASOR Total scores than nonrecidivists. Specifically, recidivists scored significantly higher than nonrecidivists on several risk items: deviant and obsessive sexual interests, unwillingness to alter deviant sexual interests/attitudes, ever sexually assaulted ≥ 2 victims, prior sanctions for sexual assaults, ever

sexually assaulted a child or a stranger, indiscriminate victim choice, antisocial orientation, high-stress families, and environment supporting opportunities to reoffend.

Focusing on the predictive validity of the ERASOR, Skowron (2004) found that the ERASOR Total score and SPR were significantly associated with sexual recidivism (r = .37, AUC = .71 and r = .38, respectively). Virtually all ERASOR Categories significantly predicted sexual recidivism (AUC's = .62 to .68), except for Category 5 (Treatment). Logistic regression analyses demonstrated that the ERASOR Total score was able to distinguish between recidivists and nonrecidivists. The overall classification rate of the ERASOR was 65%, classifying 33% of recidivists and 84% of nonrecidivists. Further analyses revealed that, with one-point increase on the ERASOR, the likelihood of sexual recidivism increased by 23%. Lastly, youth rated as *moderate* and *high* risk (*M* survival times = 78 and 68 months, respectively) reoffended significantly faster than youth classified as *low* risk (*M* survival time = 151 months). Categories 1 and 4 significantly predicted survival rate, with increases in each category score being associated with increases in likelihood of sexual reoffending.

Skowron's (2004) study also provided evidence for the predictive accuracy of the ERASOR in relation to other types of recidivism. Specifically, the ERASOR Total score and SPR were significantly associated with nonsexual violent recidivism (r = .24, AUC = .64 and r = .23, respectively), with Categories 2 and 3 significantly predicting this outcome too. There were significant differences in the failure rates of the *low*, *moderate*, and *high-risk* groups (*M* survival times = 128, 84, and 77 months, respectively). The ERASOR Total score did not significantly add to the prediction of nonsexual violent recidivism over and above the YLS/CMI Total score. Lastly, the ERASOR Total score significantly predicted any recidivism (r = .28, AUC = .67), as well as Categories 1, 3, and 4 (AUC's = .61 to .67). However, it did not add to the prediction of any recidivism once the YLS/CMI was entered into the regression model. Similarly, there were significant differences in the failure rates of the *low*, *moderate*, and *high-risk* groups (*M* survival times = 87, 55, and 51 months, respectively).

In another dissertation research, Hersant (2006) examined the reliability and discriminant validity of the ERASOR in a sample of 91 juveniles from three sex offender residential treatment centres in Wisconsin and Illinois (*M* age = 15 years, *SD* = 1.88, range 12 to 20). Contrary to McCoy's (2007) findings, the ERASOR Total and most of its Categories showed high to excellent internal consistency (α's = .73 to .91), with Category 2 obtaining the lowest alpha value

(α = .66). There was a significant relationship between the ERASOR Total score and the SPR (*r* = .70), which was consistent with previous findings (Worling, 2004). The sample was classified into repeaters and nonrepeaters based on Item #7 scores (Prior adult sanctions for sexual assaults). Repeaters obtained significantly higher ERASOR Total scores and SPR's than nonrepeaters. Based on these results, Hersant concluded that empirically guided risk assessments such as the ERASOR are reliable and valid measures for assessing sexual violence risk though evidence of discriminant validity does not translate to predictive power.

As mentioned before, McCoy (2007) examined the basic psychometric properties and predictive validity of the ERASOR. Pre-treatment ERASOR Total (ICC = .88) and Categories 2 to 4 (ICC's = .66 to .89) scores obtained good IRR. However, Categories 1 and 5 fell well below criterion for good agreement (ICC = 23). Contrary to the post-treatment ERASOR Total score and Categories 1, 2, and 5 (ICC's = .86, .73, .94, and .85, respectively), Categories 3 and 4 obtained suboptimal levels of agreement (ICC's = .55 and .29, respectively). Internal consistency for pre-and-post-treatment ratings for Categories 2 and 5 fell within the acceptable range (α's = .70 to .91). Categories 1 and 3, as well as ERASOR Total obtained inadequate alpha values at post-treatment only, and at both pre-and-post-treatment (i.e., Category 4). The author cautioned about interpretation of findings given the low IRR and internal consistency values for some of the ERASOR Categories.

McCoy (2007) reported that only the ERASOR Total and Category 5 scores significantly changed from pre-to-post-treatment. Examination of the other scales revealed that, on average, youths scored low on those scales thus allowing minimal opportunity for change. Regarding treatment and criminal outcome, only Category 2 (Historical Sexual Assaults) was significantly associated with treatment outcome (*r* = -.22), where lower scores were associated with treatment completion. The direction of the correlations for Categories 3 (Psychosocial Functioning) and 4 (Family/Environmental Functioning), albeit nonsignificant, were contrary to expectations; that is, lower scores were associated with treatment failure. Neither the ERASOR Total nor the Category scores were significantly associated with general or sexual recidivism (most *r*'s values ranged from -.10 to -.01). ROC analyses provided no support for the predictive validity of the ERASOR Total score for both criminal outcomes (AUC's = .46 and .50).

Viljoen, Elkovitch, Scalora, and Ullman (2009) investigated the predictive validity of the ERASOR in a sample of 193 sexually offending youth enrolled in a residential sex offender

treatment program in a Midwestern America city between 1992 and 2006 (*M* age at admission = 15.26, *SD* = 1.54, range = 12 to 19). All measures were coded retrospectively from files. Youth had an average follow-up time of 7.24 years after discharge from treatment (*SD* = 3.97). The overall recidivism rates were 8.3% (*n* = 16) for sexual, 13.0% (*n* = 25) for nonsexual violent, 19.7% (*n* = 38) for violent (including sexual), and 42.0% (*n* = 81) for any reoffending.

In brief, the IRR for the ERASOR's Total and SPR fell in the excellent range (ICC_1's = .90 and .75, respectively). Moreover, the ERASOR (Total and SPR) significantly correlated with other assessment measures (YLS/CMI, PLC:YV, and Stastic-99). Neither the ERASOR's Total score nor SPR significantly predicted sexual reoffending though the SPR approached significance. Only Category 3 (Psychosocial Functioning) significantly predicted remaining criminal outcomes while Category 5 (Treatment) significantly predicted any violence.

As mentioned previously, Rajlic and Gretton (2010) examined the predicted validity of the ERASOR using an antisociality-based typology in a sample of 286 sexually offending youth. IRR reliability for Total and Category scores were excellent (ICC_1's = .75-.91), except for Category 4 (Family/Environmental Functioning, ICC_1 = .59. Both ERASOR's Total and SPR significantly correlated with the J-SOAP-II Total score (*r* = .79 and .72, respectively).

In brief, the ERASOR Total and Category scores along with SPR significantly predicted sexual recidivism in the total sample (AUC's = .62-.71), except for Category 5 (Treatment). A similar pattern of results was obtained for nonsexual (any violent or nonviolent) recidivism (AUC's = .60-.71), except for Category 2 (Historical Sexual Assaults). Comparative analyses revealed that the J-SOAP-II predicted nonsexual recidivism with better accuracy than the ERASOR Total score. Cox regression survival analyses showed that the ERASOR Total and Categories 2 to 4 scores along with SPR significantly predicted sexual recidivism in the sex offence-only group (AUC's = .73-.86), but not in the delinquent group (AUC's = .49-.60). The moderating effect of offender type was not evident for nonsexual recidivism.

More recently, Worling et al. (2012) examined the prospective validity of the ERASOR in a sample of 191 sexually offending youth assessed at five agencies in southern Ontario, Canada between 2001 and 2007 (*M* age at assessment = 15.34 years, *SD* = 1.53, range = 12 to 19). These agencies provide specialized sex offender services to youth convicted for sexual offense(s) and/or to those who acknowledged criminal sexual behaviour. Furthermore, these agencies utilize the ERASOR clinically. Outcome data was obtained from provincial and

national criminal record databases, and reports to agencies (in the case of sexual outcome) to gather youth and adult charges. The average follow-up period was 3.66 years (*SD* = 2.08). The overall recidivism rates were 9.4% (*n* = 18) for sexual, 13.6% (*n* = 26) for nonsexual violence, and 18.3% (*n* = 35) for nonsexual nonviolent offences.

Worling and colleagues (2012) found that IRR for the Total score, SPR, and sum of risk factors rated as present was excellent (ICC_1's = .86-.88). Both ERASOR's Total score and sum of risk factors rated as present significantly predicted sexual reoffending (AUC's = .72 and .73, respectively). Cut-off scores were used to categorize youth as low, moderate, and high risk; these values were derived from a previous study (Worling, 2004). The use of cut-off scores (for both identified predictors) was also predictive of sexual reoffending (AUC's = .65 and .71, respectively). A similar pattern of results was evident when using a shorter follow-up period (*M* = 1.4 years), with AUC values ranging from .82 to .93 (for Total, SPR, and sum of risk factors rated as present). The cut-off scores were also more predictive of sexual reoffending for the shorter follow-up period than the entire follow-up period (for both Total and sum of risk factors rated as present). The aggregate Dynamic total score (Categories 1, 3 to 5) significantly predicted sexual reoffending, but not the Static total score (Category 2) (AUC's = .72 and .61, respectively). Lastly, the ERASOR's Total and sum of risk factors rated as present significantly predicted nonsexual violent reoffending for the entire follow-up period only (AUC's = .65 and .64, respectively), but unrelated to nonviolent reoffending.

As described earlier, Chu, Ng, Fong, and Teoh (2011) examined retrospectively the IRR, concurrent and predictive validity of the ERASOR, J-SOAP-II, and YLS/CMI in a sample of 104 sexually offending youth. IRR for the ERASOR Total and SPR were fair (ICC_1's = .49 and .43, respectively). The ERASOR Total and SPR significantly correlated with the J-SOAP-II Total score (Pearson *r*'s = .70 and .68, respectively). In brief, ERASOR Total, SPR, and Category 2 score significantly predicted sexual recidivism (AUC's = .74-.81); the pattern was similar for nonsexual recidivism except that Categories 1 (Sexual Interests, Attitudes, & Behaviors) and 4 (Family/Environmental Functioning) were significant predictors instead of Category 2 (AUC's = .66-.69). The ERASOR performed significantly better than the J-SOAP-II at predicting sexual recidivism and the opposite pattern was evident for nonsexual recidivism.

In sum, these studies have generally provided evidence for the basic psychometric properties of the ERASOR (i.e., IRR, internal consistency, and item-total correlations), as well as

identified possible risk items that might need to be modified or removed (e.g., Worling, 2004). Two (out of nine) studies did not examine the predictive validity of the ERASOR per se (Hersant, 2006; Worling, 2004). Although the ERASOR's ability to discriminate between recidivists and nonrecidivists is a psychometric quality worth examination, such results provide no direct evidence for the predictive validity of the measure. Moreover, three studies provided no evidence for the predictive accuracy of the ERASOR (Total and SPR) in relation to sexual recidivism (McCoy, 2007; Morton, 2003; Viljoen et al., 2009). Only more recent studies along with Skowron (2004) have provided evidence to the contrary (Chu et al., 2011; Rajlic & Gretton, 2010; Worling et al., 2012). Consequently, a reasonable conclusion is that at this time, there is emerging support, albeit limited, on the ability of the ERASOR to predict sexual and nonsexual recidivism.

2.2.1.3 Juvenile Sexual Offense Recidivism Risk Assessment Tool-II (JSORRAT-II).

2.2.1.3.1 Developmental and revision processes.

To identify risk factors for sexual recidivism, Epperson, Ralston, Fowers, DeWitt, and Gore (2005) extracted data from the case records of 636 youths adjudicated for a sexual offence in Utah. They identified items that optimally distinguished juvenile sexual recidivists from nonrecidivists, and then, examined the ability of these items to predict a new sexual offence. Criminal outcome data showed a combined sexual recidivism rate, based on juvenile and adult charges, of 19.8%.

For item selection analyses, Epperson et al. (2005) divided items into families, groups, and subgroups; for example, history of child abuse was a *family*, sexual abuse was a *group* within a family, and frequency of sexual abuse was a *subgroup*. The first goal was to identify the best marker variables within each subgroup that were significantly associated with sexual recidivism. From the identified subgroup variables, the goal was to identify the best marker variables within each group. The last steps were to identify the best marker variables within each family (i.e., group variables) and to select the optimal number of families as predictors of juvenile sexual recidivism. The selected set of variables in the regression model formed the J-SORRAT.

Epperson et al. (2005) used several methods to determine the predictive accuracy of the regression model in the developmental sample. First, the positive predictive power of the model was .73, meaning that 73% of juveniles predicted to recidivate sexually as juveniles (probability

scores of ≥ .50) did reoffend. The negative predictive power was .92, indicating that 92% of juveniles predicted not to recidivate sexually as juveniles (probability scores of <.50) did not reoffend. Second, the sensitivity of the model was .48 (i.e., 48% of juveniles who recidivated sexually were classified correctly as recidivists) and its specificity was .97 (i.e., 97% of juveniles who did not recidivate sexually were correctly classified as nonrecidivists). Lastly, the AUC for the full regression model was .91 (95% CI = .87 to .94), which indicated excellent accuracy.

Overall, these results suggested confidence in the positive predictive power of the J-SORRAT-II based on the identified regression model. However, given that only slightly less than half of juveniles who recidivated sexually obtained scores in the high-risk range, there was some concern about the number of false negative classifications. The excellent predictive accuracy of the model, as determined by ROC analysis, was expected given it was obtained on the sample used to identify the full regression model (Epperson et al., 2005).

Epperson et al. (2005) decided to simplify the original full regression model by utilizing a simpler categorical scoring method for each of the 12 selected risk items, and to compare its performance to the original full regression model. Using the total score from the 12 categorically scored risk items as the predictor variable, the AUC for the simplified model was .89 (95% CI = .85 to .92) and was not significantly different from the original model, indicating that minimal information was lost by modifying the scoring method. As a result, the simplified model replaced the original version of the measure and became the J-SORRAT-II.

Lastly, Epperson and colleagues (2005) created potential risk categories based on a visual inspection of the sexual recidivism rates and the J-SORRAT-II Total scores. About 70% of the developmental sample fell either in the Low (0-2 scores) or Moderately-Low (3-4 scores) categories and had an overall sexual recidivism rate of 2.7%. As total scores and risk categories increased in severity, the smaller number of juveniles fell within each category, with higher rates of sexual recidivism associated with increments in risk. Furthermore, the J-SORRAT-II Total score significantly predicted sexual recidivism during young adulthood (AUC = .79) though to a lesser degree than during adolescence (AUC = .89).

2.2.1.3.2 Assessment method.

Epperson et al. (2005) designed the J-SORRAT-II as an actuarial measure for the assessment of risk for sexual recidivism among male youths (ages 12 to 18). It is composed of 12 static risk items, with possible total scores ranging from 0 to 21. Risk items are rated based on

file documentation. Given the limited research on the validity of the J-SORRAT-II in independent samples, Epperson and colleagues stated that results from this measure should not be used to inform legal decisions.

2.2.1.3.3 Validation of the J-SORRAT-II.

Limited research has been conducted on the J-SORRAT-II outside Epperson and colleagues. As mentioned previously, Viljoen et al. (2008) examined the basic psychometric properties and predictive validity of the J-SORRAT-II in a sample of 169 sexually offending youths admitted to residential treatment. In brief, IRR for the J-SORRAT-II Total score was excellent (ICC single rater = .89). The J-SORRAT-II Total score was significantly and positively associated with the J-SOAP-II Total and Scales 1 and 2 scores (*r*`s = .28, .42, and .26, respectively), as well as the SAVRY Total score, SPR, and Historical Section (*r*'s = .19, .16, and .24, respectively). These findings provided preliminary support for the concurrent validity of the J-SORRAT-II.

Regarding the predictive validity of the J-SORRAT-II, Viljoen et al. (2008) found that the J-SORRAT-II Total score did not significantly predict sexual or nonsexual aggression during treatment (AUC's = .59 and .58, respectively). Furthermore, the J-SORRAT-II Total score did not significantly predict any form of criminal recidivism (AUC's = .53 for sexual, .56 for nonsexual violent, .55 for serious nonsexual violent, and .54 for any). Youths who scored above the median on the J-SORRAT-II did not have significantly different rates of reoffending compared to those with scores below the median.

Although Epperson et al.'s (2005) study provided encouraging results for the J-SORRAT-II on its developmental sample, stronger evidence for the validity of this measure requires its examination in an independent sample. Viljoen et al.'s (2008) findings were less than encouraging than those of the developers.

2.2.1.4 Recent reviews of risk assessment measures for youth who have sexually offended: Prediction of sexual recidivism.

First, Hempel, Buck, Cima, & van Marle (2011) conducted a qualitative review of 19 studies to determine the predictive validity of various risk assessment measures including the J-SOAP-II, ERASOR, and J-SORRAT-II in relation to sexual, nonsexual violent, and general recidivism among sexually offending youth. The authors concluded that results pertaining to each of these risk assessment measures were mixed across studies though seemed promising.

They identified factors that might contribute to these equivocal findings such as differences in sample characteristics (e.g., risk level), follow-up times, and definitions of recidivism, as well as low rates of sexual recidivism. Moreover, nonspecialized risk assessment measures such as the SAVRY and PCL:YV showed a pattern of weaker and nonsignificant associations with sexual recidivism in comparison to the J-SOAP-II or the ERASOR. It appears that despite commonalities between sexually offending and nonsexually youth (France & Hudson, 1993; Seto & Lalumière, 2010; Pullman & Seto, 2012), there are unique risk factors captured in these specialized measures that are important for the prediction of violence risk among sexually offending youth. Given the current state of the literature, Hempel et al. questioned the ethicality of imposing long-term consequences on youth based on results from these assessment measures, and encouraged the assessment of short-term as opposed to long-term risk.

More recently, Viljoen et al. (2012) conducted a meta-analysis of 33 published and unpublished studies (31 independent samples totalling 6,196 male youth who had sexually offended) to synthesize the varied findings on the predictive validity of the J-SOAP-II, ERASOR, and J-SORRAT-II using correlations and AUC's. First, the J-SOAP-II Total and Scales I to IV scores significantly predicted sexual reoffending (r_w's = .09-.19, AUC_w's = .60-.70), as well as general reoffending (r_w's = .17-.26, AUC_w's = .60-.66) with the exception of Scale I (k = 7 to 13). Second, the ERASOR Total, Categories 3 and 4 scores, and SPR significantly predicted sexual reoffending (r_w's = .11-.21, AUC_w's = .60-.66) while Categories 1 and 3 (along with total and SPR) significantly predicted general reoffending (r_w's = .13-.22, AUC_w's = .58-.62) based on findings from 7 to 10 studies. There were no significant differences in the predictive accuracy of the J-SOAP-II and ERASOR for sexual and general reoffending. Furthermore, there was significant heterogeneity for the aggregated correlations and AUC's for J-SOAP-II and ERASOR Total scores in relation to both types of reoffending. Lastly, the J-SORRAT-II Total score significantly predicted sexual reoffending (r_w = .12, AUC_w = .64, k = 7).

In sum, aggregated findings (i.e., small correlations and moderate AUC's) provided evidence for the predictive validity of the J-SOAP-II, ERASOR, and J-SORRAT for sexual reoffending. At the same time, Viljoen et al. (2012) noted that the total scores of these measures explained between 1.4 to 4% of the total variability in sexual offending, highlighting the challenges associated with the prediction of sexual violence among youth. The effect sizes for these measures were generally higher than values for individual risk factors, suggesting that

using a combination of risk factors to predict risk for sexual violence is an improvement. The authors also stressed the importance of identifying possible moderator variables that may account for the variability in findings across individual studies (Rajlic & Gretton, 2010; Worling et al., 2012).

2.2.1.5 General summary.

Compared to developments in the area of risk assessment with adults who have sexually offended, research with youths has lagged behind. Preliminary results on the reliability and validity (i.e., concurrent and discriminant validity) of existing youth risk assessment measures such as the J-SOAP-II, ERASOR, and J-SORRAT-II appears promising to some degree. However, evidence on the ability of these measures to predict sexual recidivism is conflicting (e.g., Morton, 2003; Prentky et al., 2000; Rajlic & Gretton, 2010; Righthand et al., 2005; Skowron, 2004; Viljoen et al., 2008; Worling et al., 2012) though promising. Moreover, there is limited to no empirical evidence showing that *dynamic risk variables* forming part of the J-SOAP-II and ERASOR are sensitive to change, and that positive (therapeutic) change is associated with a reduction in risk for sexual violence (e.g., Worling, 2004). In light of these gaps in the literature, some professionals initially concluded that there were no well-validated measures for assessing risk in youth who had sexually offended (Prescott, 2004; Viljoen et al., 2008). Although recent meta-analytic findings have provided emerging support for the use of the ERASOR, J-SOAP-II, and J-SORRAT-II to assess risk for sexual violence in sexually offending youth (e.g., Viljoen et al., 2012), further research on the predictive validity of these measures (along with their utility for risk management and treatment planning) is important to strengthen our knowledge base on the clinical application of these measures (Cuadra, Viljoen, & Cruise, 2010).

Phase II of the present research focuses on the validating the recently developed VRS:YSO by examining various forms of validity; for example, its association with existing risk assessment measures such as the J-SOAP-II, ERASOR, and J-SORRAT-II (i.e., concurrent validity). Moreover, considering the limited, albeit growing, research on the basic psychometric properties and predictive validity of existing risk assessment measures, Phase II addresses the need to inform the general risk assessment literature with youth who have sexually offended.

2.3 Phase III Literature Review: Relationship Among Psychopathy-Related Personality Features, Criminal and Treatment Outcome in Youth Who Have Sexually Offended

2.3.1 Psychopathy in Adulthood

2.3.1.1 Conceptualization and assessment of psychopathy.

In his seminal book, *The Mask of Sanity*, Cleckley (1941) provided a rich clinical description of individuals with a severe form of psychopathology who, at a glance, appeared to be functioning normally; he referred to this malfunctioning as psychopathy. Cleckley's portrayal of individuals with psychopathy included clinical features suggesting deficits in the interpersonal, affective, and behavioural domains. Clinical and research developments aimed at understanding the construct of psychopathy led to the refinement of its conceptualization in the second half of the 20th century.

There is a consensus among professionals that psychopathy is a personality disorder with a specific symptom pattern. Interpersonally, individuals with psychopathy are arrogant, deceitful, superficial, and manipulative. Affectively, these individuals are unable to provide appropriate emotional responses such as empathy and guilt, and any emotional responses are transient and restricted. Behaviourally, they are impulsive and stimulation seeking (Cooke, Michie, & Hart, 2006; Vincent & Hart, 2002). In addition, Cooke et al. (2006) reported that individuals with psychopathy have shown deficits in attachment, cognitive processing, and self-identity. There is an ongoing debate on whether criminal behaviour is a primary symptom of psychopathy (reflecting an antisocial latent trait) versus a secondary symptom or behavioural cue that results from the disorder (Cooke & Michie, 2001; Cooke et al., 2006; Cooke, Michie, Hart, & Clark, 2004; Farrington, 2005; Skeem & Cooke, 2010). Despite conceptual debates around the construct of psychopathy, the central features of the disorder place individuals at high risk for violence and aggression (Hare, 1999).

The most frequently used assessment measures of psychopathy in adults are the Hare Psychopathy Checklist-Revised (PCL-R; Hare, 1991, 2003), which attempts to capture the clinical features identified by Cleckley, and its Screening Version, the PCL:SV (Hart, Cox, & Hare, 1995). A plethora of research indicates that psychopathy, as operationalized by the PCL-R, is a strong predictor of violent and general recidivism in forensic samples; it is significantly associated with serious and persistent criminal behaviour, as well as community and institutional violence (Hemphill & Hart, 2002). Consequently, psychopathy (as measured by the PCL-R) has

emerged as one of the most important constructs to consider in the assessment of violence risk among adult offenders (Hare, 1999).

2.3.2 Psychopathy-Related Personality Features in Adolescence

2.3.2.1 Development of psychopathy-related personality features.

The cluster of interpersonal, affective, and behavioural traits characteristic of psychopathic personality disorder are said to appear early in life (Hare, 1991, 2003). Retrospective studies with adults have found the onset of psychopathic symptoms to be as early as ages 6 to 10 (Vincent & Hart, 2002). The early onset of psychopathic symptoms is consistent with the presumption that traits associated with a personality disorder do not suddenly emerge when a person turns 18 years old (Forth et al., 2003; Vincent & Hart, 2002; Salekin, 2006).

Salekin (2006) described developmental research findings suggesting that deficits associated with psychopathy can emerge at an early age. First, basic emotions are present in early life, so it is possible to assess psychopathic symptoms such as shallow affect and emotional responsiveness. Second, internalization of societal values and development of conscience start in the toddler years. Early social referencing between parents and children helps establish initial prohibitions against undesirable or deviant acts, which promotes awareness of standards and self-regulation. Processes associated with conceptualizing and learning to understand others such as perspective-taking, moral reasoning, self-knowledge, and empathy, develop throughout childhood and adolescence. Third, some youth exhibit characteristics such as arrogance, deceitfulness, and egocentricity that reach pathological levels beyond normative child or adolescent development. Lastly, temperamental dimensions of fearfulness, anxiety, and inhibitory control appear to be involved in the regulation of moral conduct and emotions, which may set the stage for development of psychopathy.

Even if symptoms (or traits) associated with psychopathy emerge at an early age, there have been ongoing concerns about assessing psychopathy in childhood and/or adolescence. First, transient features of adolescent development may resemble psychopathic features (Salekin, 2006; Seagrave & Grisso, 2002; Vincent & Hart, 2002). For example, "trying on" different personalities and/or being defiant toward authority are part of the process of establishing a stable and autonomous identity, which may resemble glibness or superficial charm. Risk-taking and sensation seeking, though normative in adolescence, might be confused with behavioral traits associated with psychopathy such as impulsivity, need for stimulation, and/or proneness to

boredom (see Seagrave & Grisso, 2002 for a thorough review on how multiple developmental features and processes could resemble psychopathic features). Seagrave and Grisso (2002) noted that similarities between items in psychopathy measures such as the Psychopathy Checklist: Youth Version (PCL:YV; Forth et al., 2003) and transient, normative adolescent developmental issues raise serious concerns about false positives.

Second, there is a debate among developmental psychologists whether personality, normal or abnormal, crystallizes in childhood or adolescence, and there is evidence that personality crystallizes at least during late adolescence or early adulthood (Hart, Watt, & Vincent, 2002; Vincent & Hart, 2002). If personality is not stable during childhood or adolescence, then assessment of a personality disorder in earlier developmental periods is unsupported (Hart, Watt, & Vincent, 2002; Vincent & Hart, 2002). Moreover, research on the temporal stability of psychopathy-related personality features across developmental stages in adolescence, as well as from adolescence to adulthood, is essential to validate the construct of psychopathy in the adolescent population (Edens & Vincent, 2008; Seagrave & Grisso, 2002; Salekin, 2006; Vincent & Hart, 2002). Research thus far has provided evidence, albeit limited, on the stability of psychopathy-related personality features. Specifically, there is moderate stability of such features over periods of 6 months to 11 years, but at the same time a significant number of youth with high psychopathy-related personality features as adolescents present with decreased levels of such features as adults (Viljoen, MacDougall, Gagnon, & Douglas, 2010). As a result, it is difficult to ascertain whether characteristics that resemble psychopathy-related personality features in adolescence are consistent with the construct of psychopathy in adulthood (Edens & Vincent, 2008; Hart et al., 2002; Vincent & Hart, 2002).

Fourth, comorbidity of mental disorders in adolescent samples complicates the assessment of psychopathy-related personality features, as comorbid mental disorders may affect the interpretation of high scores in psychopathy assessment measures (e.g., engagement in treatment), or mix up symptoms of mental disorders with psychopathic features (Salekin, 2006; Salekin & Frick, 2005; Seagrave & Grisso, 2002; Vincent & Hart, 2002). Lastly, labelling youth "psychopathic" might have detrimental clinical and legal consequences for youth including transfer from juvenile to adult court, harsher sentences, negative perceptions of treatment amenability, and limit accessibility to treatment (e.g., Penney & Moretti, 2005; Seagrave & Grisso, 2002; Skeem & Cauffman, 2003; Viljoen et al., 2010; Vincent & Hart, 2002; Vitacco &

Vincent, 2006; see also Murrie, Cornell, & McCoy, 2005; Rockett, Murrie, & Boccaccini, 2007; Viljoen et al., 2010 for results on the effects of the *youth psychopathy* label among clinicians and legal professionals).

Despite these concerns, the study of psychopathy-related personality features in adolescence can help understand the developmental aspects of the disorder (i.e., etiology and developmental changes across time), as well as lead to the implementation of intervention strategies for youth at risk for developing personality pathology (Salekin, 2006). Indeed, even professionals raising concerns about applying the construct of psychopathy to adolescents stress the need for further research to increase our understanding of the construct of psychopathy in adolescents (i.e., content domain) and the developmental course of the disorder (e.g., Edens & Vincent, 2008; Hart et al., 2002; Seagrave & Grisso, 2002; Skeem & Cauffman, 2003; Vincent & Hart, 2002). Altogether, some professionals agree that youth psychopathy measures assess *something* that may not necessarily be psychopathy (Edens & Vincent, 2008; Hart et al., 2002).

2.3.2.2 Assessment of psychopathy-related personality features.

The Psychopathy Checklist: Youth Version (PCL:YV; Forth et al., 2003) is a revision of the PCL:R, and it is one of the most commonly used measures to assess psychopathy-related personality features in youth. Modifications made to the PCL-R included advising raters to evaluate youth's behaviour in the context of normative adolescent behaviour of similar age, modifying item descriptions to account for the life experiences of adolescents (e.g., peers, school), and focusing on enduring features by advising raters to attend to multiple contexts since late childhood (Forth, 2005; see Forth et al., 2003 for further details about the revision process).

The PCL:YV is a 20-item rating scale designed to assess the interpersonal, affective, and behavioural features of the construct of psychopathy in male and female adolescents between ages 12 and 18 (Forth, 2005; Forth et al., 2003). Confirmatory Factor Analyses revealed that Cooke and Michie's (2001) three-factor model (Arrogant and Deceitful Interpersonal Style, Deficient Affective Experience, and Impulsive and Irresponsible Behavioral Style captured by PCL-R Factors 1 to 3 items–13 items) and Hare's four-factor model (Cooke and Michie's factor model plus an Antisocial factor –20-items) provided good representations of the underlying factor structure of the PCL:YV (Corrado, Vincent, Hart, & Cohen, 2004; Forth et al., 2003; Vincent, Odgers, McCormick, & Corrado, 2008).

Other professionals have focused on the assessment of callous-unemotional (CU) traits (i.e., lack of empathy and remorse, callousness), as these are considered central to the construct of psychopathy in adults, and relevant for distinguishing among subgroups of antisocial youth (Frick & Moffit, 2010; Kimonis, Frick, Cauffman, Goldweber, & Skeem, 2012). A growing number of researchers have utilized self-report measures of psychopathic traits such as the Youth Psychopathic Traits Inventory (YPI; e.g., Andershed, Kerr, Stattin, & Levander, 2002) and the Inventory of Callous-Unemotional Traits (ICU; e.g., Essau, Sasagawa, & Frick, 2006) to assess CU traits in youth. In brief, psychometric research has revealed an underlying three-factor structure for the YPI (Grandiose-Manipulative, CU, and Impulsive-Irresponsible) and supporting evidence for its concurrent validity (Kimonis et al., 2012). There is also evidence for the adequate internal consistency and construct validity of the ICU (Lawing et al., 2010). Overall, research thus far indicates that a subgroup of antisocial youth present with high CU traits, and that such youth exhibit a more stable pattern of conduct problems and aggression (Frick & Moffit, 2010; see Kimonis et al., 2012 for a review on the differences between youth with high CU traits and other antisocial youth). Moreover, sexually offending youth with high CU traits tend to have more sexual offence victims, use more violence in their offences, and engage in greater planning of their offences compared to youth with low CU traits (Lawing, Frick, & Cruise, 2010).

Given that more studies have used the PCL:YV to assess psychopathy-related personality features and violence risk among sexually offending youth, the following review is focused on the predictive validity of the PCL:YV in sexually and nonsexually offending samples.

2.3.2.3 Predictive validity of the Hare Psychopathy Checklist: Youth Version (PCL:YV) among violent youth.

A growing body of research indicates that psychopathy-related personality features, as measured by the PCL:YV, are associated with an increased risk for violence and aggression among adolescent offenders (Catchpole & Gretton, 2003; Corrado et al., 2004; Edens, Campbell, & Weir, 2007; Gretton, Hare, & Catchpole, 2004; Forth et al., 2003; Olver, Stockdale, & Wormith, 2009; Salekin, 2006; Stockdale, Olver, & Wong, 2010). For instance, in a retrospective study, Catchpole and Gretton (2003) examined the predictive validity of the PCL:YV in a sample of 74 violent young offenders followed-up for a year. In sum, PCL: YV Total scores significantly predicted general and violent recidivism (AUC's = .78 and .73, respectively).

Youths with high PCL:YV scores (≥ 30) were significantly more likely to reoffend generally and violently at faster rate than youths with moderate (20 to 29.9) and low (< 20) PCL:YV scores.

In a 10-year follow-up study, Gretton et al. (2004) investigated the predictive validity of the PCL:YV in a sample of 157 adolescent male offenders. The PCL:YV Total score, along with Factor 1 (Interpersonal/Affective) and Factor 2 (Lifestyle/Antisocial) scores were significantly associated with violent recidivism (r_{pb}'s = .32, .24, .42, respectively). Only Factor 2 scores were significantly associated with nonviolent recidivism (r_{pb} = .33), and neither the PCL:YV Total and Factor scores were significantly associated with sexual recidivism. High PCL:YV scores were also significantly associated with shorter latency to subsequent violent and nonviolent reoffending. Overall, these results suggested that propensity to violence among adolescents with many psychopathy-related personality features is a characteristic that endures from adolescence to early adulthood.

Results from quantitative reviews add further support for the association between psychopathy-related personality features, as measured by the PCL:YV or modified versions of the PCL-R, and risk for violence. First, Edens et al. (2007) conducted a meta-analysis of 21 studies with 2,867 male and female adolescent offenders, and found that PCL Total scores were significantly associated with general (mean weighted *ES* or r_w = .24, 95% CI = .19-.30, n = 2,787, k = 20) and violent (r_w = .25, 95% CI = .20-.31, n = 2,067, k = 14) recidivism. Factors 1 and 2 scores were also significantly associated with both types of criminal outcome. Edens and colleagues reported significant heterogeneity among the effect sizes that was partly attributed to the ethnic and gender composition of the samples.

According to Edens and colleagues (2007), Factor 2 scores were more strongly associated with general recidivism compared to Factor 1 scores. Unfortunately, the authors did not examine whether Factor 1 scores contributed to the prediction of recidivism after controlling for Factor 2 scores. Regardless of the factor model (Two, Three, or Four), the interaction of all factors reflects psychopathy, where the Interpersonal and Affective features are central to the construct in adults (Corrado et al., 2004). Importantly, if the predictive power of the PCL:YV is based primarily on the behavioural features of the construct (e.g., impulsivity), then introducing the concept of psychopathy may be unnecessary, as these symptoms are characteristic of most disruptive behaviour disorders. Similarly, if the antisocial facet accounts for the predictive power of the PCL:YV, then criminal history variables may be sufficient predictors. It is also possible

that both antisocial and behavioural traits account for most of the predictive power of the PCL:YV. Alternatively, the interaction of all factors may predict specific types of recidivism (violent vs. general), and this association may depend on the follow-up time, as some psychopathy-related personality features might be less stable across adolescence (i.e., Interpersonal and Affective domains; Corrado et al., 2004; Edens et al., 2007; Gretton et al., 2004; Vincent et al., 2008).

In a recent meta-analysis of 49 studies (44 independent samples totalling 8,746 young offenders), Olver et al. (2009) found that the PCL measures significantly predicted general (r_w = .28, 95% CI = .24-.32, n = 2,335, k = 20) and violent (r_w = .25, 95% CI = .21-.29, n = 2,547, k = 20) recidivism. PCL measures also significantly predicted nonviolent recidivism (r_w = .16, 95% CI = .11-.22, n = 1,316, k = 11) though to a lesser degree. Unfortunately, Olver and colleagues could not examine the predictive or incremental validity of the PCL Factor scores on the prediction of recidivism, as the predictive accuracy of individual facet scores were seldom reported in individual studies.

Both meta-analyses revealed that the PCL measures do not significantly predict sexual recidivism. Edens et al. (2007) reported the following weighted mean *ES*: Total score: r_w = .07, 95% CI = -.01-.15, n = 654, k = 4; Factor 1: r_w = .03, 95% CI = -.17-.22, n = 437, k = 3; Factor 2: r_w = .08, 95% CI = -.02-.17, n = 437, k = 3. Olver et al. (2009) found that the youth adapted PCL did not significantly predict sexual recidivism (r_w = .07, 95% CI = -.01-.16, n = 547, k = 4). Edens and colleagues asserted that psychopathy (as measured by PCL measures) does not seem to be a useful predictor of sexual reoffending, which might be partly due to the low base rate of sexual outcome. This finding is not surprising given that the PCL measures were not designed to assess risk for sexual violence (Olver et al., 2009). Given the small number of studies examining the ability of the PCL measures to predict sexual recidivism among sexually offending youth, it is possible that aggregate findings based on a large sample of studies reveal different findings.

Overall, there is empirical evidence supporting the ability of the PCL:YV (and adapted versions of the PCL) to predict violent, nonviolent, and general (any) recidivism among violent youth. Further research would help clarify the incremental validity of the various facets of the PCL:YV in relation to violence prediction; that is, whether the interpersonal and/or affective features of the PCL:YV add to the prediction of recidivism over and above the Behavioural and/or Antisocial facets.

2.3.2.4 Predictive validity of the Hare Psychopathy Checklist: Youth Version (PCL:YV) among sexually offending youth.

Although few studies have focused on the role of psychopathy-related personality features among youth who have sexually offended, results indicate that sexually abusive youth with high PCL:YV scores are at higher risk for future reoffending than youth with lower PCL:YV scores (Gretton et al., 2005; Gretton, et al., 2001). In a sample of 220 sexually offending youth, Gretton et al. (2001) found that youths in the high PCL:YV group were significantly more likely to reoffend generally, violently, and sexually, than youths in the low PCL:YV group. PCL:YV scores were significantly correlated with general (r_{pb} = .25) and violent (r_{pb} = .19) recidivism, but not sexual recidivism (r_{pb} = .09). PCL:YV scores also contributed significantly to the prediction of general and violent recidivism.

Moreover, Gretton et al. (2001) examined the relationship between psychopathy-related personality features, sexual deviance, and criminal outcome. The interaction between high PCL-YV scores and sexual deviance, as measured by phallometric assessment, placed youths at high risk for general and violent reoffending, but not sexual reoffending. This finding is incongruent with studies showing that the interaction between these variables is critical for the prediction of sexual recidivism among sexually offending adults (Edens et al., 2007; see Hanson & Morton-Bourgon, 2005). Of note, Gretton et al. is the only known published study focusing on the predictive ability of the interaction of both risk factors in sexually offending youth; therefore, further research is necessary to assess the reliability of this finding.

In a sample of 253 sexually offending youth, Gretton et al. (2005) found that the PCL:YV was a robust predictor of nonviolent reoffending (AUC's = .75 for Total score, .67 for Factor 1, and .76 for Factor 2) and a moderate predictor of violent reoffending (AUC's = .67 for Total score, .61 for Factor 1, and .70 for Factor 2). Youth who completed treatment were significantly less likely to reoffend sexually than those who dropped out of treatment (14% vs. 27%, respectively). Youth in the high PCL:YV group were significantly less likely to complete treatment than those in the low PCL:YV group. Furthermore, youths in the low PCL:YV group who dropped out of treatment were at increased risk for sexual reoffending compared to those who completed treatment (44% vs. 8%, respectively). Youths in the high PCL:YV group who dropped out of treatment were at increased risk for violent reoffending compared to those who completed treatment (83% vs. 33%, respectively).

In another study, Viljoen et al. (2009) examined the predictive validity of the PCL:YV in a sample of 193 sexually offending youth (*M* follow-up time = 7.24 years and 8.3% sexual recidivism rate). Consistent with previous studies, the PCL:YV Total score significantly predicted nonsexual violence, any violence, and general recidivism (AUC's = .61-.71) with variable performance among factors scores, as well as time to first nonsexual violent and any reoffense. Moreover, the PCL:YV Total score did not significantly add to the prediction of any criminal outcome over and above the YLS/CMI (Total and professional rating), though the YLS/CMI professional rating showed incremental value over the PCL:YV and YLS/CMI Total score for the prediction of nonsexual violence and any violence. On the other hand, Caldwell, Ziemke, and Vitacco (2008) found that the PCL:YV Total score significantly predicted future sexual, violent, and general offence charges in an aggregated sample of 264 juvenile offenders (91 sexual offenders and 174 nonsexual offenders) during a mean follow-up time of 71.6 months. Caldwell and colleagues proposed that inconsistent findings on the predictive validity of the PCL:YV for sexual reoffending might be attributed to differences in sample composition. Specifically, their sample included a significant number of youth with high PCL:YV Total scores (*Mdn* = 32.1); therefore, the power of the PCL:YV to predict sexual recidivism might be detected among samples composed of criminally prone sexually offending youth.

Overall, these studies indicate that sexually offending youth with many psychopathy-related personality features are at high-risk for general and violent reoffending. Moreover, high PCL:YV scores are associated with an increased risk for treatment dropout. This finding is critical given that treatment dropout is associated with an increased risk for sexual reoffending. Equally important, youth in the high PCL:YV group who completed treatment showed a reduction in their risk for violent reoffending, which contradicts the unfounded view that individuals with many psychopathy-related personality features are untreatable (Hemphill & Hart, 2002).

Focusing on youth with many psychopathy-related personality features, Caldwell, Skeem, Salekin, and Van Rybroek (2006) found that participation in intensive treatment is significantly associated with a reduction in risk for violent recidivism. Furthermore, Caldwell, McCormick, Umstead, and Van Rybroek (2007) reported that a subgroup of youth with many psychopathy-related personality features showed a positive response to appropriate treatment, namely improved treatment compliance and reduced aggression. Together, these findings suggest that

early intervention may be beneficial for youth, and that contrary to people's pessimistic views, youth with many psychopathy-related personality features might be amenable to treatment.

Overall, few studies have examined the role of psychopathy-related personality features among sexually offending youth. Findings to date highlight the need to consider psychopathy-related personality features in the assessment of risk for nonsexual recidivism and treatment completion among youth who have sexually offended. Phase III of the present research addresses this research area.

2.4 Hypotheses

2.4.1 Phase I Hypotheses: Development and Initial Psychometric Examination of the Violence Risk Scale: Youth Sexual Offender Version (VRS:YSO)

The following hypotheses focused on the initial basic psychometric properties of the VRS:YSO:

2.4.1.1 Reliability.

It was predicted that the VRS:YSO would demonstrate excellent interrater agreement (Intraclass correlation coefficient (ICC_1 Consistency) for single rater $\geq .75$; see Cicchetti, Bronen, Spencer, Haut, Berg, & Oliver, 2006) for a random sample of the total number of cases (16% of cases). Specifically, the Static, Dynamic, and the combined Static-Dynamic Total components of the VRS:YSO are predicted to show an excellent level of interrater agreement. These predictions were based on the clear description and examples provided for each VRS:YSO risk item, as well as the violence risk assessment training provided to each independent rater.

It was anticipated that the VRS:YSO would have adequate internal consistency (Cronbach's alpha $\geq .75$) for the Static, Dynamic, and the combined Static-Dynamic Total components of the VRS:YSO. Items comprising each portion of the VRS:YSO are expected to reflect accurately their underlying theoretical constructs and to be nonredundant.

It was expected that the VRS:YSO would demonstrate adequate item-total correlations (Pearson *r's* $\geq .20$), as each item will contribute significantly to the combined Static-Dynamic Total score.

2.4.1.2 Factor structure.

It was predicted that a parsimonious factor solution would be obtained from an Exploratory Factor Analysis (EFA) of the pre-treatment Dynamic component of the VRS:YSO that will account for as much of the common variance as possible. Only the pre-treatment Dynamic component will undergo an EFA because past research on the adult version of the tool (e.g., Beggs & Grace, 2010; Olver et al., 2007) has conducted factor analysis of the *dynamic risk variables* as they are intended to provide an individualized criminogenic needs profile for each youth that can be prioritized for treatment. Although conceptually it would make sense to conduct a factor analysis of all items (*static and dynamic risk variables*), clinically it is arguably of equal or greater value to do a factor analysis only on the dynamic items.

2.4.2 Phase II Hypotheses: Comprehensive Psychometric Examination of the Violence Risk Scale: Youth Sexual Offender Version (VRS:YSO)

The following hypotheses focused on the comprehensive psychometric examination of the VRS:YSO:

2.4.2.1 Concurrent validity.

It was anticipated that the J-SOAP-II, ERASOR, and J-SORRAT-II Total scores would be highly and positively associated with the combined VRS:YSO Static-Dynamic Total score. A similar association would be obtained between the ERASOR's structured professional rating (SPR) and the combined Static-Dynamic Total score. Furthermore, J-SOAP-II subscales and ERASOR categories would be positively associated with relevant VRS:YSO's derived factors (see Phase I EFA results) and its Static and Dynamic subscales. Given that all four risk assessment measures include static risk factors, it was expected that the Static component of the VRS:YSO would be highly and positively associated with the Static Summary scale of the J-SOAP-II, Category 2 (Historical Sexual Assaults) of the ERASOR, and the J-SORRAT-II Total score.

2.4.2.2 Postdictive validity.

It was anticipated that the pre-treatment VRS:YSO Static, Dynamic, and combined Static-Dynamic Total scores, along with derived factor scores, would be highly and positively associated with indicators of past sexual violence, namely number of prior sexual offences and total number of prior offences. Youth detected for previous sexual offences and who continued to commit sexual offences (i.e., repeaters) were anticipated to score significantly higher on the VRS:YSO Static, Dynamic, combined Static-Dynamic Total, and factor scores than youths who had no previous sexual offences (i.e., nonrepeaters).

2.4.2.3 Predictive validity.

It was expected that the pre-and-post-treatment VRS:YSO Static, Dynamic, combined Static-Dynamic Total, and derived factor scores, would be highly and positively associated with sexual recidivism. Higher pre-and-post-treatment VRS:YSO Total, individual components, and derived factors' scores were anticipated to predict the above criminal outcome. Moreover, the VRS:YSO Total, individual components, and derived factors were anticipated to predict violent (sexual and nonsexual) and general (any) recidivism.

After controlling for variables associated with reoffending (i.e., offence history) and time at risk, it was hypothesized that youth obtaining scores above the median of the combined VRS:YSO Static-Dynamic Total score would reoffend (sexually, violently, and generally) at a higher and faster rate than youth obtaining scores below the median. Moreover, pre-treatment combined Static-Dynamic Total score was anticipated to be significantly higher than the post-treatment Total score. Change scores (i.e., pre-treatment total minus post-treatment total) for all *dynamic risk variables* were added to obtain a total change score. Positive therapeutic change (i.e., higher total change scores) was predicted to be significantly associated with a decreased risk for sexual, violent (sexual and nonsexual), and general (any) recidivism.

2.4.2.4 Incremental validity.

It was expected that the Dynamic component of the VRS:YSO would significantly add to the prediction of sexual recidivism over and above the Static component of the VRS:YSO. A similar pattern was anticipated for the prediction of violent (sexual and nonsexual) and general (any) recidivism.

2.4.3 Phase III Hypotheses: Relationship Among Psychopathy-Related Personality Features, Criminal and Treatment Outcomes in Youth Who Have Sexually Offended

The following hypotheses focused on the association between psychopathy-related personality features, criminal and treatment outcomes:

2.4.3.1 Psychopathy-related personality features and criminal outcome.

It was expected that PCL:YV Total scores would be positively associated with nonsexual violent and nonviolent recidivism. PCL:YV Total scores would significantly predict both forms of criminal outcome though its predictive ability would be mainly attributed to Factor 3 scores using Cooke and Michie's (2001) three-factor model, and Factors 3 and/or 4 scores using Forth et al.'s (2003) four-factor model. No specific hypotheses about the significant and unique contributions of the Interpersonal and Affective psychopathy-related personality features to the prediction of nonsexual violent and nonviolent forms of recidivism were made. PCL:YV Total and Factor scores would be significantly associated with sexual recidivism in the overall sample.

Research on sexually offending adults revealed that the degree of psychopathy-related personality features vary according to offender subtype (e.g., Olver & Wong, 2006). As a result, the overall sample was divided based on the age of prior sex-offending victims: offenders against children, offenders against peers or adults, and offenders against children and peers or adults

(mixed offenders). It was anticipated that offenders against peers or adults and/or mixed offenders will exhibit higher PCL:YV scores than offenders against children (Parks & Bard, 2006; Prentky & Righthand, 2003). Hypotheses concerning the associations between the PCL:YV, offender subtype, and criminal outcome (along with its predictive ability) were not given though the pattern of associations and predictive power of the PCL:YV might vary as a function of offender subtype.

2.4.3.2 Psychopathy-related personality features and treatment outcome.

It was expected that youth who completed treatment successfully would be less likely to reoffend than those who did not complete treatment successfully. In addition, youth in the high PCL:YV group would be less likely to complete treatment successfully than those in the low PCL:YV group. Overall, youth who did not complete treatment successfully in both PCL:YV groups were anticipated to be at higher risk for future violence.

Chapter 3.
Method

3.1 Ethics Process

Phases I to III of the present research were archival in nature; therefore, the active participation of youth was not required. Ethical approval to conduct the present research involved a four-step process. First, ethical approval was obtained from the Saskatchewan Provincial Court and subsequently the Saskatoon Health Region to access youth court and treatment files for research purposes. Access to youth criminal records was contingent on obtaining approval from the Saskatchewan Provincial Court. Third, prior to implementing the research programme ethical approval from the Behavioural Research Ethics Board (B-REB) at the University of Saskatchewan to ensure the protection of participants was obtained. Lastly, a request was made to the RCMP National Headquarters to obtain the criminal records following verification of the B-REB and judicial approval.

Youth court and treatment files were property of the Saskatoon Health Region–CYS. Therefore, files were maintained onsite. All data collection and storage took place at CYS. A list of youth who received outpatient sex offender services (i.e., assessment and/or treatment) from the Young Offender Program (YOP) between 1995 and 2008 was created, and their records were accessed to code the necessary information. A non-identifying study number was assigned to each participant to ensure youths' confidentiality. The master list containing the youth's name, CYS file number, and study number was created to help link the raw data to the study data. The raw coded data of study measures are currently stored onsite in a locked cabinet at CYS. A database stripped of identifying information, but containing the study numbers, was maintained by the student investigator.

Criminal records (employed in Phases II and III) were obtained from the Canadian Police Information Centre (CPIC) through the Royal Canadian Mounted Police (RCMP). Raw CPIC data were securely stored under lock and key at the University of Saskatchewan–Criminal Behavior Lab under the supervision of the student investigator's research supervisor (M.E.O).

There were no risks involved to the youth. All information coded from youth court and treatment files, along with criminal records, were used for research purposes only. That is, it had no bearing upon any legal and/or clinical decision-making involving the youth.

3.2 Participants

Participants were 102 male youths who had received outpatient sex offender services (i.e., assessment and/or treatment) from the Young Offender Program (YOP) between 1995 and 2008. The YOP is part of the Child and Youth Services (CYS) of Mental Health and Addiction Services in the Saskatoon Health Region that provides forensic-clinical services to youth between 12 and 18 years of age. Of note, two 19-year olds in the sample were retained as they had committed the index offence prior to their 18th birthday, and were adjudicated as youths. Otherwise, the youth sample was between 12 and 18 years of age.

For Phase I, three youth were excluded due to incomplete data (i.e., missing substantial information on the YSO coding protocol and scores on the VRS:YSO); therefore, the final sample was 99. For Phases II and III, two youth were excluded from the original sample because their scores on more than one of the risk assessment measures (or PCL-YV) were missing thus leading to a final sample of 100. Overall, the mean age of youth at the time of involvement with the YOP was 16.24 years (*SD* = 1.97), and 14.30 years (*SD* = 1.90) at the time of the index offence that led to their involvement with the YOP. Virtually all youths (98%) were charged with, or convicted of, one or more sexual index offence(s) in the Canadian Criminal Code (i.e., sexual assault with a weapon, sexual assault, sexual interference, invitation to sexual touching, incest, and indecent exposure). Only one youth who was charged with a sexual offence received a conviction for a nonsexual violent offence (i.e., assault). Youth were convicted, on average, of 2.10 index offences (*SD* = 3.58) and approximately 80% of youths had only a sexual offence(s) as their index offence(s). For the index offence(s), most youth received, on average, a sentence length of 24.19 months (*SD* = 5.84, *n* = 81), and were sentenced to probation (60.6%).

The ethnic breakdown of the sample was Caucasian (43%), Aboriginal (23%), and about 34% of unknown descent. The substantial proportion of Aboriginal youth in the sample was expected considering the population demographics in Saskatchewan and the well-documented overrepresentation of Aboriginal peoples at various stages of the criminal justice system and youth forensic services in Canada (see Juristat, 2006; Rojas & Gretton, 2007). Tables 3.1 and 3.2 present additional information about the sample.

Table 3.1

Criminal History and Index Offence Characteristics for the Sample

Criminal History[a]			
	M	*SD*	Range
Age at first conviction (*n* = 81)	15.35	1.62	7.17 (12.25-19.42)
Type of conviction	At least one sexual offence (86.4%)		
Prior adjudicated sexual offences	0.02	0.15	1 (0-1)
Prior adjudicated violent offences	0.13	0.57	4 (0-4)
Prior adjudicated nonviolent offences	1.02	3.84	25 (0-25)
Prior adjudicated offences	1.17	4.07	26 (0-26)
Victim Characteristics: Index Sexual Offending[b] (%)			
Sex:			
Male	29.3		
Female	75.8		
Developmental group:			
Child (< 12 years-old)	75.8		
Adolescent (12-18-years-old)	22.2		
Adult (> 18-years-old)	2.0		
Relationship:			
Intrafamilial	52.5		
Extrafamilial (friends/acquaintances)	40.4		
Stranger	7.1		
Total # of victims: *M* (*SD*)	1.35 (0.81) – 74.7% had 1 victim		

Note. [a]N = 94. [b]N = 99.

Table 3.2

Individual and Family Functioning for the Sample

Academic Functioning		
School status at time of ax: (%)		
Attending	80.8	
Expelled or Quit	15.2	
Grade level at time of ax: *M* (*SD*)	10.40 (9.51)	
Highest grade achieved prior to ax: *M* (*SD*)	9.48 (9.54)	
Family Functioning (%)		
Living situation at time of ax:		
Both biological parents	23.2	
One biological parent	28.3	
Other relatives	15.2	
Foster care	20.2	
Stability of living situation at time of ax:		
Stable	53.5	
Moderate instability	40.4	
Severe instability	4.0	
Child Maltreatment (%)	No	Yes
Physical abuse (*n* = 98)	69 (70.4)	29 (29.6)
Severity:	*n* = 24	
Mild	12.5%	
Moderate/Severe	87.5%	
Occurrence:	*n* = 26	
Single	3.8	
Multiple	96.2	
Sexual abuse (*n* = 97)	67 (69.1)	30 (30.9)
Occurrence:	*n* = 29	
Single	34.5%	
Multiple	65.5%	
Emotional abuse (*n* = 98)	70 (71.4)	28 (28.6)
Severity:	*n* = 25	
Mild	12.0	
Moderate/Severe	88.0	
Occurrence:	*n* = 26	
Single	3.8	
Multiple	96.2	

Note. Ax = assessment.

3.3 Adolescent Sex Offender Treatment Program

About two-thirds of the sample (n = 61, 61%) attended therapeutic services at CYS–YOP and only five youth received treatment in other settings elsewhere in the province such as closed custody or a residential treatment program. Overall, fifty-five (55.0%) and 52 (52.0%) youths participated in individual and group treatment, respectively, targeting sexual offending behaviour following assessment. Regarding SO group treatment, youth frequently participated in a psychoeducational group followed by a relapse prevention group (number of sessions ranged from 10 to 12 per group) if the latter group was successfully completed. Group treatment followed a cognitive-behavioural framework. Program components included cognitive restructuring, victim empathy, communication skills including assertiveness, anger management, development of an individualized offending cycle and relapse prevention plan. Of note, interventions from the Adolescent Sex Offender Treatment Program were risk informed. That is, treatment issues were identified for each youth based on the available knowledge and assessment technology at the time. The groups utilized a cognitive-behavioural framework (CBT) and generally addressed some common need areas for sexually offending youth. Individual services were offered frequently and were tailored to client-specific issues.

Youth attended treatment services during and until their probation expired (typically a 2-year period). When their probation expired, then treatment services were completed. If youths attended the psychoeducational/cognitive behavioral group and the relapse prevention group, and/or attended individual sessions before, between, or following the groups, then they completed services.

Two operational definitions were used to code treatment completion. First, youth were coded as successfully completing none, partial, or full treatment services. Decisions pertaining *successful completion of treatment* were based primarily on treatment providers' assessment of youth's participation in one or more modes of SO treatment (group and/or individual). For example, partial treatment services could entail a successful completion of the psychoeducational group, but not the relapse prevention group. Second, youth who successfully completed none or partial full treatment services were combined to form the category of "treatment non-completers." Youth who attended treatment services, but did not successfully complete either of the groups or left after only attending a few individual sessions were deemed to have completed "none" of the treatment services. Of note, youth considered to have successfully completed

"none" of the treatment services and received group services typically attended only a few group sessions. Reasons for not completing the group component successfully included missing group sessions, poor participation, minimal engagement, and disruptive behaviour (even in two cases where youth attended several sessions). Treatment information was collected via the YSO coding protocol, which was utilized in Phase I (see Appendix A for the YSO Coding Protocol and Coding Guide).

3.4 Materials

The following materials were coded from comprehensive court and treatment files:

3.4.1 Phase I materials: Development and initial psychometric examination of the Violence Risk Scale: Youth Sexual Offender Version (VRS:YSO).

Youth Who Sexually Offend (YSO) Coding Protocol.

A coding protocol was designed to collect information in five areas: basic demographics, criminal history, index offence victim characteristics, individual and family functioning, and treatment. Both YSO coding protocol and coding guide were modified from a protocol previously used in research with sexually offending youth by the student investigator (Rojas & Gretton, 2007). The YSO coding protocol was evaluated for relevance, clarity, and completeness. It underwent minor revisions based on initial file review and discussions between the student investigator and research assistant (i.e., exclusion of items for which information was mostly unavailable in files and refinement of coding instructions). All information was coded from youth files. Criminal history information was crosschecked with criminal records when feasible, but only after all assessment measures were coded for all phases of the research (see Appendix A for the YSO Coding Protocol and Coding Guide).

Violence Risk Scale: Youth Sexual Offender Version (VRS:YSO) Draft Version 1.

The VRS:YSO has maintained the basic format, structure, and theoretical rationale of the parent scale–the VRS:SO (see Olver et al., 2007 for more information about the development of the VRS:SO). The VRS:YSO was designed to assess risk for sexual violence pre-and-post-treatment among youth who have sexually offended, to identify treatment targets, and to assess changes in risk. The VRS:YSO is a 23-item rating scale; it contains six *static risk variables* and 17 *dynamic risk variables*. There were three additional *dynamic risk variables* included at the end of the VRS:YSO drawn from the Violence Risk Scale: Youth Version (VRS:YV; Lewis, Wong, & Gordon, 2004), a measure designed to assess violence risk among violent youth, to

capture potential family and community risk factors for violence. These three *dynamic risk variables* (i.e., poor parent-child interaction, family stress, and community disorganization) were not part of the VRS:YSO; instead, they were rated to inform a decision about whether or not to include any of them in future revisions of the risk assessment tool.

Each risk item was rated on a 4-point Likert-type scale (ranging from 0 to 3), where higher ratings indicated greater prevalence of risk factors associated with an increased risk for sexual violence. For the dynamic component of the VRS:YSO, items receiving a score of 2 or 3 were considered treatment targets; whereas, items scored 0 or 1 were either absent or considered a nonissue for the assessee. For identified treatment targets (i.e., risk items scored 2 or 3), the pre-treatment Stages of Change, assessing the youth's motivation and readiness to change, was rated according to the five stages of change: precontemplation, contemplation, preparation, action, or maintenance. For sexually offending youth who attended treatment, the post-treatment Stage of Change was rated for the same identified treatment targets. Progression from one stage to the next stage reflected improvement and received a decrease in risk rating of 0.5 for each stage. The post-treatment VRS:YSO score for each identified treatment target was obtained by subtracting the post-treatment Stage of Change rating from its pre-treatment score (see Appendix B for the VRS:YSO Draft Version 1).

3.4.2 Phase II materials: Comprehensive psychometric examination of the Violence Risk Scale: Youth Sexual Offender Version (VRS:YSO).

Estimate of Risk of Adolescent Sexual Offense Recidivism Version 2.0 (ERASOR).

The ERASOR (Worling & Curwen, 2001) is a 25-item empirically informed guide designed to appraise risk for sexual offending in males (ages 12 to 18) with a history of sexual assault. It is divided into five categories: Sexual Interests, Attitudes, and Behaviours (e.g., deviant sexual interests), Historical Sexual Assaults (e.g., ever sexually assaulted a child), Psychosocial Functioning (e.g., antisocial interpersonal orientation), Family/Environmental Functioning (e.g., high stress family environment), and Treatment (e.g., failure to complete treatment). Items are rated as present, partially/possibly present, not present, or unknown. An overall risk rating of low, moderate, or high is based on an evaluation of the combination of risk factors (see Appendix C for the ERASOR items).

Juvenile Sex Offender Assessment Protocol-II (J-SOAP-II).

The J-SOAP-II (Prentky & Righthand, 2003) is a 28-item empirically informed guide designed to assist in the systematic review of risk factors associated with sexual and nonsexual offending. It is intended for use with males between ages 12 and 18 with a history of sexually coercive behaviour. The J-SOAP-II has four subscales: Sexual Drive/Preoccupation (e.g., duration of sex offense history); Impulsive, Antisocial Behavior (e.g., history of conduct disorder): these subscales capture *static risk variables* and form the Static Summary scale; Intervention (e.g., internal motivation for change); and Community Stability/Adjustment (e.g., management of anger): these subscales capture *dynamic risk variables* and form the Dynamic Summary scale. All J-SOAP-II items are trichotomized and are given equal weighting. Items on each of the four subscales are added; each total subscale score is divided by the total possible subscale score. This calculation provides the relative "proportion of risk" for each of the four subscales. All four subscale scores are summed to obtain the J-SOAP-II Total score; a similar procedure is used to obtain the overall "proportion of risk," with a maximum possible score of 56. Higher scores reflect a greater risk for sexual (and nonsexual) offending (see Appendix D for the J-SOAP-II items).

Juvenile Sexual Offense Recidivism Risk Assessment Tool-II (J-SORRAT-II).

The J-SORRAT-II (Epperson et al., 2005) is a 12-item actuarial risk assessment designed to assess risk for sexual recidivism. It is intended for use with males between ages 12 and 18 at the time of the sexual index offence. J-SORRAT-II items reflect sexual and nonsexual offence characteristics (e.g., number of adjudications for sex and nonsexual offenses), educational background (e.g., placement in special education), and history of childhood abuse (e.g., number of incidents of hands-on sexual abuse). There is a criterion-based scoring system; scores are summed to obtain a total score, with a higher score reflecting greater risk. The maximum possible score is 21. The developers of the J-SORRAT-II noted that the measure has not been validated with an independent sample; therefore, its use has been limited to research purposes at this time (see Appendix E for the J-SORRAT-II items).

3.4.3 Phase III materials: Relationship among psychopathy-related personality features, criminal and treatment outcomes in youth who have sexually offended.

Hare Psychopathy Checklist: Youth Version (PCL:YV). The PCL:YV (Forth et al., 2003) is a 20-item rating scale designed to assess psychopathy-related personality features in youth between the ages of 12 and 18. Items measure the interpersonal, affective, and behavioural features of the psychopathy construct. Each item is rated on a 3-point scoring system: 0 ("definitely does not apply"), 1 ("applies to some extent"), and 2 ("definitely applies"). Scores for individual items are summed to obtain a total score ranging 0 to 40. Although the PCL:YV provides dimensional scores, Forth et al. stated that youth can be categorized based on the degree of psychopathic traits present for research purposes. For instance, Gretton et al. (2001) divided youth into low (< 18), medium (18-29), and high (≥ 30) PCL:YV groups based on their total scores. The PCL:YV Total and Factor scores can be examined separately. Research shows that the three- and four-factor models are good representations of the internal structure of the PCL:YV (Jones, Cauffman, Miller, & Mulvey, 2006; Kosson, Neumann, Forth, Salekin, Hare, Krischer, & Sevecke, 2012; Neumann, Kosson, Forth, & Hare, 2006; Sevecke, Pukrop, Kosson, & Krischer, 2009). It is recommended to use file and interview data to rate the PCL:YV, particularly for the interpersonal features; nevertheless, studies indicate that file-only assessments can be valid and reliable (e.g., Catchpole & Gretton, 2003; Gretton et al., 2001; Gretton et al., 2005; see Appendix G for a listing of the PCL:YV items).

Criminal recidivism and history.

Criminal records were obtained from the Canadian Police Information Centre (CPIC) through the Royal Canadian Mounted Police (RCMP) to code recidivism (for Phases II and III). Criminal history information obtained from the YSO coding protocol was crosscheck with the CPIC records to ensure completion of data (see Appendix F for the Recidivism Coding protocol).

3.5 Procedure

A thorough examination of the literature on youth and adults who have sexually offended was conducted to guide decisions about which risk variables may be added, retained, discarded, or modified from the VRS–SO to develop a young offender version, subsequently referred to as the VRS:YSO. Once the literature review was completed (with most information gathered prior to data collection), it was shared with the student's research supervisor (M.E.O) who is also one of the developers of the VRS–SO. Moreover, the VRS:YV was used to guide the selection of

potential risk factors for youth violence, as well as the language and examples used to describe some risk variables. Developers of the VRS–SO (S.C.P. Wong, M.E. Olver, and A. Gordon) completed the VRS:YSO scale revisions and a clinician-researcher in the YOP in Saskatoon (K.C. Stockdale) provided feedback on the revision process and revised measure. Altogether, these three main sources of information guided the development of the VRS:YSO Draft Version 1, which would be initially examined in Phase I (see Appendix B for the VRS:YSO Draft Version 1).

For Phases I to III, all assessment measures (i.e., VRS:YSO, ERASOR, J-SOAP-II, J-SORRAT-II, and PCL:YV) and YSO coding protocol were rated retrospectively from comprehensive youth files that were stored at CYS. Further revisions to the VRS:YSO would ultimately be based on results from the preliminary examination of item properties and scale structure (Phase I). The student investigator (E.Y. Rojas) coded the assessment measures after reviewing a youth's file for most of the sample. The student investigator had been trained in scoring the VRS–SO (didactic training and completion of two sample cases), had completed graduate course work on violence risk assessment and forensic psychology, had completed clinical practicum positions in an adult sex offender program and the YOP, and had research experience coding youth forensic files. A third-year undergraduate research assistant coded the assessment measures (and YSO coding protocol) for part of the sample, as well as double coded a random selection of files (16.0%, n = 16) to assess interrater reliability. The research assistant had completed an undergraduate course in criminal behaviour, had received training in scoring the VRS–SO, had scored the VRS:YSO (and YSO coding protocol) on two training cases from youth files and discussed ratings with the student investigator. Of note, the research assistant's ratings obtained from the training cases were excluded from reliability analysis.

Six sets of the six materials coded for all three phases of the research (i.e., YSO coding protocol, VRS:YSO, J-SOAP-II, ERASOR, J-SORRAT-II, and PCL:YV), where the order in which the materials were coded was varied, were created to reduce possible coding biases that could result from rating the measures in the same order. Both raters were blind to subsequent charges and convictions. Coding for all measures were completed prior to accessing CPIC criminal records to obtain recidivism data.

Youth court and treatment files were typically comprehensive though earlier files (prior to 2000) often had scant information. On average, files included psychological assessments,

social history reports, school records, treatment plans, progress notes, and legal records. Variables were coded from files based on the available information. Effort was made to code a variable as "not present" when there was file information available to make that judgment confidently as opposed to insufficient information. Both raters agreed to omit an item or provide a rating of "unknown" or "missing" when there was not sufficient information to derive at a rating. These coding rules were particularly relevant when coding *dynamic risk variables* from earlier files as these may not be as comprehensive as later files. Moreover, raters applied the instrument/item-rating rules as best as possible within the allotted time window for a given item based on the information that was available in the file. Specifically, the VRS:YSO *dynamic risk variables* were coded prior to (including information gathered during the psychological assessment) and following treatment services at the YOP. For the J-SOAP-II, *dynamic risk variables* (i.e., Scales III and IV) were coded based on all information available until the last (and most recent) contact with the youth (i.e., assessment or treatment). The ERASOR *dynamic risk variables* (i.e., Categories 1 and 3 to 5) were coded based on information available within the last six months of the last (and most recent) contact with the youth (as per instructions in the manual). Given that data collection was based on file review, raters rated the quality of a random sample of files (n = 56) on a 5-point Likert type scale, where 1 indicated *extremely poor quality* and 5 indicated *extremely good quality*, to assess the richness of file information. The overall quality rating was good (M = 4.06, SD = 1.11, Mdn = 4.75, mode = 5), with 12.5% of files (n = 7) rated as *poor* (i.e., received a score of 2).

Criminal records were obtained from CPIC to obtain criminal history and recidivism. A listing of the youths' names and birthdates was provided to the RCMP National Headquarters, who then conducted the search and mailed hardcopies of the criminal records to the student's research supervisor (M.E.O). Historical information was obtained from youth files (YSO coding protocol) and crosschecked with CPIC criminal records; it included the index offence (the most recent sexual offence leading to youths' involvement with the YOP) and any sexual and nonsexual offences committed prior to the index offence.

Although both charges and convictions were coded from the CPIC criminal records, recidivism was defined as any new conviction following the completion of services at the YOP. Research on the VRS–SO and other variants of the measure have utilized convictions as opposed to charges as an outcome variable. There are relative strengths and weaknesses in using one

criterion measure over the other. For instance, charges could help obtain a more accurate representation of the base rate of sexual recidivism given the unreported nature of sexual offences and the greater likelihood of such offences to be declared unfounded by the police (see Juristat, 2003). On the other hand, convictions may be viewed as more robust as one can have greater certainty that the individual committed the criminal act for which they were charged since they were found guilty within a court of law. The same degree of certainty may not apply to charges that are stayed, dismissed, or withdrawn, or particularly if the individual was acquitted. Reconvictions were further separated between offences occurring in adolescence and adulthood. Offences were categorized into sexual, violent (sexual and nonsexual), and general (any) recidivism.

CPIC provides criminal records on youth and adult charges, convictions, and sentences; however, inactive records are routinely expunged (Hanson & Nicholaichuk, 2000), and may not be accessible (e.g., a youth offender with no new record of criminal activity as an adult). Young offenders who did not have an active CPIC on file, and thus for whom it could not be retrieved, were coded as non-recidivists. That is, their criminal records would have existed at one point in time (i.e., when they received services at the YOP), but are no longer accessible due to an absence of any further recorded criminal activity. This may have the net effect of underestimating youth base rates of recidivism; for instance, a youth may have received new charges as a youth, but then remains crime free as an adult, and after a prolonged period of inactivity his record may be expunged. This is anticipated to have minimal impact on the present findings given that this is anticipated to apply to a small proportion of youth who would have continued to offend following their involvement in the YOP, only to have stopped prior to reaching adulthood and then remaining crime free prior to their records being expunged.

Criminal history and outcome variables were coded as continuous (i.e., total number of offences) and dichotonomous (yes/no). Recidivism data was coded after the YSO coding protocol and assessment measures were coded to avoid coding biases. Number of months youth were on probation and/or free in the community was recorded to calculate the total number of months they spent in the community during follow-up.

Lastly, to test some of the hypotheses in Phase III, the sample was classified according to victim age (based on history and index sexual offences) into offenders against children, offenders against peers or adults, or mixed offenders. A youth who offended against children is one who

sexually offended against a child and had no known history of sexually offending against peers or adults. Based on Prentky and Righthand's (2003) criteria, a child victim was ≤ 10-years-old and ≥ 4 years younger than the abuser at the time of the offence. A peer or adult offender is one who sexually offended against a peer or adult victim and had no known history of child victims. A peer or adult victim was ≥ 11 years-old at the time of the offence. A mixed offender is one who sexually offended against children and peers or adults (see also Parks & Bard, 2006).

3.6 Analytical Strategy

3.6.1 Phase I analytical strategy: Development and initial psychometric examination of the Violence Risk Scale: Youth Sexual Offender Version (VRS:YSO).

Following the development of the VRS:YSO, a preliminary evaluation of its basic psychometric properties was conducted including descriptive statistics, reliability analysis, and factor structure.

3.6.1.1 Descriptive statistics.

Basic descriptive statistics include measures of central tendency (e.g., mean), variability (e.g., standard deviation), and shape of the distribution (e.g., skewness).

3.6.1.2 Reliability analyses.

Interrater reliability. Intraclass correlation coefficient for single raters was calculated using a two-way random effects model (ICC_1 Consistency; see Shrout & Fleiss, 1979). Cicchetti et al's (2006) guidelines were used to interpret the strength of rater agreement, where ICC_1 Consistency values of 0.60 to 0.74 indicate good agreement and ≥ 0.75 indicate excellent agreement.

Internal consistency. Cronbach's alpha was used to assess whether items in the Static, Dynamic, and the combined Static-Dynamic Total components of the VRS:YSO accurately reflect their underlying theoretical constructs.

Item-total correlations. Pearson *r* correlation coefficient was used to assess whether each item contributes significantly to the VRS:YSO combined Static-Dynamic Total.

3.6.1.3 Factor structure.

An Exploratory Factor Analysis (EFA) was used on the pre-treatment Dynamic component of the VRS:YSO given that the goals are to explore relationships among risk variables and to uncover factors that reflect underlying psychological constructs. EFA produces linear combinations of variables that estimate their common variance. The Principal Axis

Factoring (PAF) method was used to select a small number of factor solutions utilizing the scree plot. This iterative procedure maximizes the amount of common variance accounted for by each factor. Each of the potential factor solutions was subjected to a Varimax Rotation that retained the same number of factors, but rearranged the variance among the factors to enhance simple structure.

The final factor solution was selected based on five sources of information: (a) Scree plot (eigenvalue > 1 criterion); (b) Pattern Matrix as it shows the factor loadings partialling out the remaining factors; criterion used to determine that an item loaded on a factor was ≥ .45, which is considered fair (Tabachnick & Fidell, 2007, p. 649), and with minimal or no cross-loadings; (c) Reproduced Correlation Matrix (small number of nonredundant residuals with absolute values > .05); (d) interpretability of extracted factors; and (e) correlations among extracted factors.

3.6.2 Phase II analytical strategy: Comprehensive psychometric examination of the Violence Risk Scale: Youth Sexual Offender Version (VRS:YSO).

The current writer examined four types of validity as part of the comprehensive psychometric examination of the VRS:YSO. First, concurrent validity focused on the relationship between the VRS:YSO and other risk assessment measures intended to measure a similar construct (i.e., risk for sexual violence). Second, postdictive validity focused on the relationship between the VRS:YSO and past indicators of criminal behaviour such as total number of sexual offences committed prior to the index offence. Third, predictive validity examined the relationship between the VRS:YSO and sexual, violent (sexual and nonsexual), and general (any) recidivism. Lastly, incremental validity examined the additive value of the VRS:YSO Dynamic component over and above that of the Static component for the prediction of future criminal behaviour. Incremental validity analyses also examined the relative contributions of the static and dynamic components of other measures in the prediction of criminal outcome.

3.6.2.1 Concurrent validity.

Pearson *r* correlation coefficients were used to assess the relationship between the combined VRS:YSO Static-Dynamic Total (its individual components and extracted factors) and the total scores for the J-SOAP-II (and its subscales), the ERASOR (and its categories), and the J-SORRAT-II. The relationship between the combined VRS:YSO Static-Dynamic Total (its individual components and extracted factors) and the ERASOR summary risk rating (SPR) was examined using Kendall's Tau (τ) for categorical variables.

3.6.2.2 Postdictive validity.

Pearson *r* correlation coefficient was used to examine the relationship between the pre-treatment combined VRS:YSO Static-Dynamic Total (its individual components and extracted factors) and two indices of criminal history: total number of sexual offences and total number of offences (sexual, violent, and nonviolent). Independent samples t test was used to assess differences on the combined VRS:YSO Static-Dynamic Total (its individual components and extracted factors) between repeaters and first-time offenders. Receiver Operating Characteristic (ROC) analysis was used to examine whether the combined VRS:YSO Static-Dynamic Total accurately predicts group membership (repeaters vs. first-time offenders).

3.6.2.3 Predictive validity.

To assess the predictive validity of the pre-and-post-treatment VRS:YSO Total (its individual components and extracted factors), four statistical methods were utilized:

Correlation coefficients. Pearson *r* correlation coefficients were used to examine the relationship between the VRS:YSO (Total, individual components, and extracted factors) and criminal outcome (as continuous variables). Point-biserial r_{pb} correlations were used when examining criminal outcome as a dichotomous variable. According to Cohen's (1988) guidelines, correlation coefficients of .10, .30, and .50 correspond to "small," "medium," and "large" effects, respectively, for two continuously distributed variables. Correlation coefficients (r_{pb}) of .086 are "small," .212 are "medium," and .327 are "large" effects for dichotomous outcomes such as recidivism with a 25% base rate (see Rice & Harris, 2005).

ROC analyses. This technique was used to assess the ability of the VRS:YSO to predict recidivism as it is less affected by base rates (Mossman, 1994). ROC analysis produces a statistical index called Area Under the Curve (AUC), which depicts the trade-off between sensitivity and specificity of a measure. Specifically, AUC values indicate the probability that a randomly selected recidivist would obtain a high VRS:YSO Total score compared to a randomly selected nonrecidivist. AUC values range from zero to one (0 = perfect negative prediction, .50 = chance prediction, and 1.0 = perfect positive prediction). AUC values of .639 and ≥ .714 may be considered "medium" and "large," respectively (see Rice & Harris, 2005).

Survival analyses. Cox regression survival analyses were used to examine the unique contribution of important covariates in the prediction of recidivism while adjusting for individual differences in length of follow-up time. Moreover, Kaplan-Meier survival analyses were used to

estimate the length of time it took youth with VRS:YSO Total scores above the median to reoffend in comparison to youths with scores below the median.

Paired samples t-test. This technique was used to examine whether pre-treatment VRS:YSO Total scores are significantly higher than post-treatment Total scores. Therapeutic change was conceptualized as pre-treatment total minus post-treatment total for each dynamic risk item; values were then summed to obtain a total change score. The association between therapeutic change and criminal outcome was examined using Point-biserial r_{pb} correlation coefficient and ROC analysis.

3.6.2.4 Incremental validity.

Cox regression survival analysis was used to examine whether the Dynamic component of the VRS:YSO added to the prediction of recidivism over and above the Static component of the VRS:YSO. This technique allows for the control of covariates and individual differences in follow-up time.

3.6.3 Phase III analytical strategy: Relationship among psychopathy-related personality features, criminal and treatment outcomes in youth who have sexually offended

3.6.3.1 Psychopathy-related personality features and criminal outcome.

Basic descriptive statistics for the PCL:YV such as measures of central tendency (e.g., mean), variability (e.g., standard deviation), and shape of the distribution (e.g., skewness) were calculated. Pearson *r* (or Point-biserial–r_{pb}) correlation coefficients were used to examine the relationship between psychopathy-related personality features, as measured by the PCL:YV Total and Factor scores, and recidivism. Receiver Operating Characteristic (ROC) analyses were used to assess the predictive accuracy of the PCL:YV (both three- and four-factor models). Potential differences in the base rate of psychopathy-related personality features in the three offender groups (i.e., offenders against children, offenders against peers or adults, and mixed offenders) were examined via Tukey's Honestly Significant Difference (HSD) test or independent samples *t* test if only two groups were compared.

Gretton et al.'s (2001) guidelines were used to divide the sample into low, moderate, and high PCL:YV groups based on their total scores. Kaplan-Meier survival analyses were used to estimate recidivism rates over time for youths in each PCL:YV group. In turn, Cox regression survival analyses were used to examine the unique contribution of important covariates in the

prediction of outcome and adjust for individual differences in length of follow-up time. As such, this technique was used to examine whether the Interpersonal and/or Affective psychopathy-related personality features add to the prediction of recidivism over and above the Behavioural and/or Antisocial features. The same statistical techniques were used to examine the association between the PCL:YV and recidivism, as well as the predictive accuracy of the PCL:YV among the three offender groups.

3.6.3.2 Psychopathy-related personality features and treatment outcome.

Potential differences in recidivism among treatment completers (i.e., youth who successful completed full treatment services) and non-completers (i.e., youth who successful completed none or partial treatment services) were examined via chi-square analysis. A similar statistical technique was used to examine treatment completion rates among PCL:YV groups. Kaplan-Meier survival analyses were used to compare the survival rate distributions of treatment completers and non-completers in each PCL:YV group.

3.6.4 A-priori decision-making

3.6.4.1 Criterion for statistical significance.

The Bonferroni method was used to control for familywise (FW) error when multiple tests were conducted on a criterion variable and these tests were conceptualized as a family of tests. This method held the FW error rate to a pre-set value of .1; a suitable alpha level for each analysis (α') was obtained by dividing the pre-set value by the total number of tests (Howell, 2002). For instance, if the pre-set value was .1 and three tests formed a family of tests, the individual alpha level for each test was .1/3 = 0.033. If the Bonferroni method was not required, then an alpha level of .05 was used for each analysis conducted.

3.6.4.2 Power analysis.

Power ($1-\beta$) is the probability of obtaining a value in the rejection region given that the null hypothesis is false. Power calculations allow one to determine the power of a test to detect a hypothetical departure from the null distribution of a particular magnitude. If the power of a test is .80 and the desired magnitude of effect is .25, it means that there is an 80% chance that a significant effect of .25 would be detected given the null hypothesis is false. Importantly, if the power of a test is low, then the probability of making a Type II error is high. Type II error is the probability of accepting the null hypothesis given that the null hypothesis is false. Type II error can be controlled by increasing power, which is heavily impacted by sample size.

To identify the required sample size, one must fix alpha (α) to control for Type I error (probability of rejecting the null hypothesis given that the null hypothesis is true), decide on a desirable power, and select a specific departure or magnitude of effect. Cohen's guidelines for varying effect sizes in relation to power calculation for Pearson's product moment correlation are small (r = .1), medium (r = .3), and large (r = .5) (see Cohen, 1992). Hemphill (2003) suggested the following empirically based guidelines for interpreting magnitudes of effect in clinical studies involving intervention and assessment: low (r < .20), moderate (r = .20 to .30), and high (r > .30). Considering both guidelines, a moderate or medium effect size of r = .30, an alpha level of .05, and a power of .80 were chosen. The following formula was used to estimate the necessary sample size for the desirable power: $n = (\delta/\textit{effect size})^2$ (see Howell, 2002). Based on this formula, it was estimated that at least 87 participants would be needed.[2] Of note, power is constrained by base rates; therefore, if the base rate for an event is low, then a greater number of participants is needed. In sum, a sample of at least 87 participants would allow for the detection of a correlation of r = .30 if the base rate for the outcome event is sufficiently high, and the scale is able to discriminate effectively between recidivists and nonrecidivists.

Chapter 4.

Results

4.1 Phase I Results: Development and Initial Psychometric Examination of the Violence Risk Scale: Youth Sexual Offender Version (VRS:YSO)

4.1.1 Descriptive statistics.

Table 4.1 presents the descriptive statistics for the VRS:YSO pre-and post-treatment Static (six *static risk variables*), Dynamic (17 *dynamic risk variables*), and combined Static-Dynamic Total scores for the sample, and reveals no significant concerns about the assumption of normality or outliers.

Table 4.1

Descriptive Statistics for the VRS:YSO Scale Components

Measure	M (Mdn)	SEM	SD	Range	Skewness	Kurtosis
Pre-tx[a]						
Static	5.37 (5.00)	0.25	2.47	11.00 (1-12)	0.56	0.11
Dynamic	27.76 (27.00)	0.68	6.76	31.00 (11-42)	0.13	-0.66
Total	33.27 (32.50)	0.86	8.52	39.80 (14-54)	0.29	-0.55
Post-tx[b]						
Static	5.67 (5.00)	0.32	2.36	10.00 (1-11)	0.39	-0.16
Dynamic	21.69 (20.75)	0.93	6.81	29.50 (9.5-39)	0.58	-0.24
Total	27.41 (26.50)	1.17	8.61	37.50 (12.5-50)	0.63	-0.32

Note. Possible scores for Static (0-18), Dynamic (0-51), and Combined Total (0-69) scale components. Tx = treatment. [a]N = 98. One youth did not have a VRS:YSO pre-treatment score, but there was sufficient information to code the measure post-treatment; as a result, the youth was maintained in the sample. [b]N = 54. Youth attended treatment although did not necessarily complete it successfully.

4.1.2 Reliability analyses.

Interrater reliability.

The undergraduate research assistant separately coded a random sample of cases (16.2%, *n* = 16), with 11 of those cases having post-treatment scores. According to Cicchetti et al's (2006) guidelines, the ICC_1 (Consistency) for the VRS:YSO pre-and-post treatment Dynamic and combined Static-Dynamic Total scores fell in the good range (.64 and .70, respectively, for Dynamic; .73 and .71, respectively, for Total) while the ICC_1 (Consistency) for the VRS:YSO pre-and-post treatment Static scores fell in the excellent range (.78 and .83, respectively).

Internal consistency.

The internal consistency of the VRS:YSO pre-treatment components were examined via Cronbach's alpha. The Dynamic (17 *dynamic risk variables*) and combined Static-Dynamic Total components revealed good internal consistency (α's = .79 and .82, respectively). On the contrary, the Static component (six *static risk variables*) showed weak internal consistency (α = .39) indicating heterogeneous item content among the six items. Lastly, the VRS:YSO pre-treatment Dynamic component when adding the two additional experimental items (19 *dynamic risk variables*, namely poor parent-child interaction and family stress also showed good internal consistency (α = .80, n = 66).

Item-total correlations.

Table 4.2 shows that eleven *dynamic risk variables* from the 17-item VRS:YSO Dynamic component showed moderate to large correlations (Pearson r's ≥ .30 to .62; see Cohen, 1992; Hemphill, 2003 for interpretation guidelines of correlation coefficients), with the entire scale, suggesting that these variables are measuring a similar construct as the rest of the scale (i.e., risk for sexual violence). Three items had small correlations with the entire scale (Pearson r's =. 17 and .24) though their removal would lead to no or marginal increase to the overall consistency of the scale. The remaining three items correlated negligibly with the rest of the scale (Pearson r's < .10), suggesting that these *dynamic risk variables* may be measuring a different construct than the other variables. However, the deletion of these variables would also have a minimal impact to the overall internal consistency of the scale (α's = .80-.81 vs. α = .79, respectively).

Item-total correlations were calculated for the 19-item VRS:YSO pre-treatment Dynamic component, which included two out of the three additional *dynamic risk variables*, and provided comparable results to those of the 17-item Dynamic component (see above). Item 18 (Poor parent-child interaction) had a large correlation with the entire scale in comparison to Item 19 (Family stress); however, the removal of the latter item improved the overall consistency of the scale only marginally (see Table 4.3). Of note, experimental items 18 and 19 were coded for a random sample of cases (n = 66). Experimental item 20 (Community disorganization) was excluded from statistical analysis as both raters were unable to rate the item in most cases due to insufficient file information and were only able to code the item successfully in 18 cases.

Table 4.2

Item-Total Correlations for the 17-Item VRS:YSO Pre-treatment Dynamic Component

Dynamic Risk Variable	Item-Total Correlation	Cronbach's Alpha if Item Deleted
D1. Sexually deviant lifestyle pattern	.47	.77
D2. Sexual compulsivity	.47	.78
D3. Offence planning	.24	.79
D4. Callous and unemotional traits	.62	.76
D5. Cognitive distortions	.41	.78
D6. Interpersonal aggression	.51	.77
D7. Emotional control	.06	.80
D8. Insight	.56	.77
D9. Substance abuse	.08	.81
D10. Community support	.58	.77
D11. Return to high-risk situations	.24	.79
D12. Sexual offending cycle	.30	.79
D13. Impulsivity	.51	.77
D14. Noncompliance with community supervision	.59	.76
D15. Treatment noncompliance	.60	.76
D16. Deviant sexual interests	.17	.80
D17. Intimacy skills deficits	.08	.80

Table 4.3

Item-Total Correlations for the 19-Item VRS:YSO Pre-treatment Dynamic Component

Dynamic Risk Variable	Item-Total Correlation	Cronbach's Alpha if Item Deleted
D1. Sexually deviant lifestyle pattern	.47	.79
D2. Sexual compulsivity	.44	.79
D3. Offence planning	.26	.80
D4. Callous and unemotional traits	.62	.78
D5. Cognitive distortions	.38	.79
D6. Interpersonal aggression	.56	.78
D7. Emotional control	.01	.81
D8. Insight	.63	.79
D9. Substance abuse	.13	.81
D10. Community support	.66	.78
D11. Return to high-risk situations	.22	.80
D12. Sexual offending cycle	.19	.80
D13. Impulsivity	.54	.78
D14. Noncompliance with community supervision	.57	.78
D15. Treatment noncompliance	.64	.78
D16. Deviant sexual interests	.14	.81
D17. Intimacy skills deficits	.07	.81
D18. Poor parent-child interaction	.49	.79
D19. Family stress	.22	.81

Note. N = 66.

4.1.3 Factor structure.

An Exploratory Factor Analysis (EFA) was conducted on the 17-item pre-treatment Dynamic component of the VRS:YSO to identify underlying constructs reflecting dynamic risk for sexual violence. The Principal Axis Factoring (PAF) method was the iterative procedure used to extract factors as it maximizes the amount of common variance accounted for by each factor. A Varimax Rotation was used to achieve simple structure by maximizing the variance of the loadings within each factor thus easing the interpretation of extracted factors. Five factors were initially extracted (> 25 iterations), examination of the scree plot (eigenvalue > 1 criterion) and rotated factor matrix (≥ .45 considered fair item-factor loadings), suggested that a two, three, or four factor solution could provide the best fit to the data (see Figure 4.1 and Table 4.4).

Figure 4.1

Scree Plot for the 17-item VRS:YSO Pre-treatment Dynamic Component

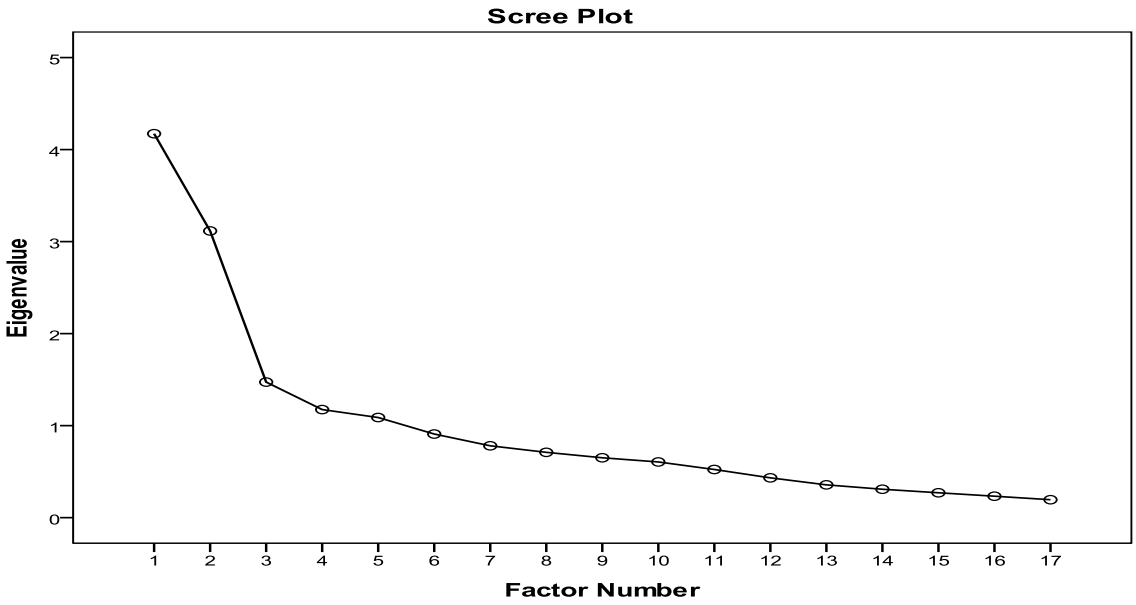


Table 4.4

Rotated Factor Matrix for the 17-Item VRS:YSO Pre-treatment Dynamic Component

Dynamic Risk Variable	1	2	3	4	5
D15. Treatment noncompliance	.83				
D14. Noncompliance with community supervision	.77				
D10. Community support	.68				
D6. Interpersonal aggression	.65				
D4. Callous and unemotional traits	.62				
D8. Insight	.60				
D13. Impulsivity	.55				
D5. Cognitive distortions	.42				
D1. Sexually deviant lifestyle pattern		.76			
D2. Sexual compulsivity		.69			
D16. Deviant sexual interests		.53			
D11. Return to high-risk situations		.42			
D3. Offence planning			.71		
D12. Sexual offending cycle			.53		
D17. Intimacy skills deficits				.56	
D7. Emotional control				.50	
D9. Substance abuse					.65

Subsequent analyses were executed forcing two, three, and four factor solutions to identify which solution created a simpler structure. Multiple sources of information indicated that an orthogonal two-factor solution provided the most parsimonious and interpretable solution. First, the scree plot suggested that a clear separation occurred between the second and third factor, with the slope becoming flatter after the third factor. Second, the rotated factor matrix showed that factor loadings for each item were quite high, with few or no cross-loadings. Third, the reproduced correlation matrix produced 52.0% of nonredundant residuals with absolute values > .05, which was slightly higher than the matrix for the three-factor solution (41.0%). Fourth, the interpretability of the extracted factors was significantly improved. Factors 1 and 2 showed good internal consistency (Cronbach's α's = .85 and .80, respectively). Lastly, the correlation among the extracted Factors 1 and 2 supported the orthogonal nature of the underlying factors (.25).

There are three issues to consider before reviewing the results of the present EFA. First, the total sample was 99, which is less than optimal given that factor analysis tends to be a large sample procedure (Tabachnick & Fidell, 2007). Moreover, the ratio of the number of participants to the number of variables fell below the 10:1 criterion (99/17 = 5.8:1). Second, the assumption that there is common variance to extract factors was met (Kaiser-Meyer-Olkin measure of sampling adequacy = .75, which represents an overall index of the size of the partial correlations). Lastly, the assumption that there is an absence of multicollinearity was met (determinant was above the .0001 criterion, which represents the non-singular correlation matrix).

As seen in Table 4.5, the total amount of common variance extracted by the analysis was 6.2, which was 36.5% of the total variance. Rotated Factors 1 and 2 accounted for 57.4% and 42.7%, respectively, of the common variance. Factor 1 (eigenvalue = 3.56, 20.92% of total variance) consisted of the following nine *dynamic risk variables*: Noncompliance with community supervision (D14), Treatment noncompliance (D15), Callous and unemotional traits (D4), Insight (D8), Interpersonal aggression (D6), Community support (D10), Impulsivity (D13), Cognitive distortions (D5), and Substance abuse (D9). Risk variables reflected defiance to authority, antisociality, emotional and interpersonal deficits, risk-taking, and attitudes supportive of offending behaviour. As a result, Factor 1 was labelled Antisocial Tendencies. Of note, Substance abuse (D9) had a factor loading below .45 though above the item-factor loading minimum criterion for interpretability, which is .32 (Tabachnick & Fidell, 2007, p. 649). As a result, this item was included in the Antisocial Tendencies factor. Factor 2 (eigenvalue = 2.65, 15.56% of total variance) consisted of the following five *dynamic risk variables*: Sexually deviant lifestyle pattern (D1), Sexual compulsivity (D2), Sexual offending cycle (D12), Deviant sexual interests (D16), and Offence planning (D3). Factor 2 was labelled Sexual Deviancy in light of item content. Intimacy skills deficits (D17), Emotional control (D7), and Return to high-risk situation (D11) loaded on the Sexual Deviancy factor, but fell below the item-factor loading minimum criterion for interpretability of .32 (.30, .27. and .24, respectively). Of note, the present factor structure was moderately consistent with the structure of the VRS:SO (see Olver et al., 2007).

Table 4.5

Rotated Factor Matrix for the VRS:YSO Pre-treatment Dynamic Component (2-Factor Solution)

Dynamic Risk Variable	Factor 1: Antisocial Tendencies	Factor 2: Sexual Deviancy
D14. Noncompliance with community supervision	***.80***	
D15. Treatment noncompliance	***.74***	
D4. Callous and unemotional traits	***.66***	
D8. Insight	***.63***	
D6. Interpersonal aggression	***.62***	
D10. Community support	***.62***	
D13. Impulsivity	***.57***	
D5. Cognitive distortions	***.47***	
D9. Substance abuse	***.34***	
D1. Sexually deviant lifestyle pattern		***.81***
D2. Sexual compulsivity		***.73***
D12. Sexual offending cycle		***.68***
D16. Deviant sexual interests		***.67***
D3. Offence planning		***.41***
D17. Intimacy skills deficits		.30
D7. Emotional control		.27
D11. Return to high-risk situations		.24
Eigenvalue	3.56	2.65
% of variance accounted for	20.92	15.56
Cronbach's α	.84	.80

Note: Item-factor loadings in bold and italics reflect dynamic risk items included in Factors 1 and 2 of the VRS:YSO.

4.2 Phase II Results: Comprehensive Psychometric Examination of the Violence Risk Scale: Youth Sexual Offender Version (VRS:YSO)

4.2.1 Descriptive statistics and interrater reliability.

Table 4.6 presents the descriptive statistics for the J-SOAP-II, ERASOR, and J-SORRAT-II Total scores (please see Table 4.1 for data on the VRS:YSO). Overall, there were no significant concerns about the assumption of normality or outliers, except for the J-SORRAT-II Total score. On the ERASOR, 26.0% of youth (n = 26) were classified as low risk, 60.0% (n = 60) as moderate risk, and 14.0% (n = 14) as high risk for sexual reoffending.

Table 4.6

Descriptive Statistics for the Other Violence Risk Assessment Measures

Measure	*M* (Mdn)	SEM	*SD*	Range	Skewness	Kurtosis
J-SOAP-II[a]						
Total	20.74 (19.50)	0.81	8.09	38.00 (4-42)	0.28	-0.59
ERASOR[a]						
Total	17.23 (17.00)	0.69	6.93	30.00 (6-36)	0.40	-0.37
J-SORRAT-II[b]						
Total	3.19 (3.00)	0.26	2.56	12.00 (0-12)	1.39	2.25

Note. [a]N = 100. Possible scores for the J-SOAP-II (max. = 56) and ERASOR (max. = 50). [b]N = 99. One youth did not have a J-SORRAT-II score (max. 21).

As seen in Table 4.7, the ICC_1 (Consistency) for the J-SOAP-II and ERASOR Total scores fell within the good range while the ICC_1 (Consistency) for the J-SORRAT-II Total score fell within the excellent range. On the other hand, the ICC_1 (Consistency) for the ERASOR's structured professional rating (SPR) fell within the fair range. However, examination of Table 4.8 reveals that both raters had exact agreement on 75% of cases (12 out of 16 ratings) while for the remaining four cases, raters showed only minor discrepancies (e.g., low vs. moderate risk). As such, the results supported the interrater reliability of the ERASOR, J-SOAP-II, and J-SORRAT-II.

Table 4.7

Interrater Reliability for the J-SOAP-II, ERASOR, and J-SORRAT-II

Measure	ICC_1 (Consistency)
J-SOAP-II[a]	
Total	.71
ERASOR[b]	
Total	.71
SPR	.42
J-SORRAT-II[b]	
Total	.83

Note. [a]N = 17. [b]N = 16. ICC_1 = Intraclass correlation coefficient for single rater (Two-Way random effects model, Consistency). J-SOAP-II = Juvenile Sex Offender Assessment Protocol-II; ERASOR = Estimate of Risk of Adolescent Sexual Offense Recidivism; SPR = Structured Professional Rating; J-SORRAT-II = Juvenile Sexual Offense Recidivism Risk Assessment Tool-II.

Table 4.8

Cross-tabulation for the ERASOR Structured Professional Rating

		R_2 ERASOR SPR		
		Low	Moderate	High
R_1 ERASOR SPR	Low	2	1	0
	Moderate	2	10	1

Note. N= 16. R_1 = Rater 1; R_2 = Rater 2. ERASOR = Estimate of Risk of Adolescent Sexual Offense Recidivism. SPR = Structured Professional Rating.

4.2.2 Concurrent validity.

Concurrent validity refers to the extent in which two independent tests supposed to measure the same underlying construct (i.e., risk for sexual violence) correlate with one another (Cronbach & Meehl, 1955). Table 4.9 shows that the combined VRS:YSO Static-Dynamic Total (pre-and-post-treatment) along with its individual components and extracted factors significantly correlated with the J-SOAP-II, ERASOR, and J-SORRAT-II Total scores. Kendall's Tau (τ) correlations indicated that the VRS:YSO was significantly associated with the ERASOR's SPR though the correlations were smaller in comparison to the ERASOR's Total score. There were also significant correlations between the J-SOAP-II, ERASOR, and J-SORRAT-II. Most correlations ranged from medium to large, according to Cohen's guidelines (1988), except for

the small correlations between the ERASOR's SPR and VRS:YSO pre-treatment Factor 2 (Sexual Deviancy), as well as J-SORRAT-II. Table 4.10 also presents the correlations for the VRS:YSO and the subscales of the J-SOAP-II and categories of the ERASOR.

Table 4.9

Correlations Between the VRS:YSO and Other Violence Risk Assessment Measures

Measure	VRS:YSO Pre-tx	VRS:YSO Post-tx	J-SOAP-II	ERASOR		J-SORRAT-II
	Total	Total		Total	SPR[a]	
VRS:YSO Pre-tx						
Static		.82	.64	.57	.49	.70
Dynamic		.82	.77	.63	.53	.51
Factor 1	—	.78	.78	.48	.44	.36
Factor 2		.39	.31	.40	.20*	.37
Total		.88	.80	.66	.57	.61
VRS:YSO Post-tx						
Static			.70	.67	.55	.64
Dynamic			.79	.86	.82	.42
Factor 1		—	.81	.76	.65	.42
Factor 2			.50	.68	.58	.30*
Total			.82	.86	.80	.51
J-SOAP-II			—	.71	.65	.51
ERASOR						
Total					.78	.29
SPR[a]					—	.23*
J-SORRAT-II						—

Note. Pearson *r* correlations. [a]Kendall's Tau (τ) correlations. VRS:YSO = Violence Risk Scale: Youth Sexual Offender Version; Tx = treatment; Factor 1 = Antisocial Tendencies; Factor 2 = Sexual Deviancy; J-SOAP-II = Juvenile Sex Offender Assessment Protocol-II; ERASOR = Estimate of Risk of Adolescent Sexual Offense Recidivism; SPR = Structured Professional Rating; J-SORRAT-II = Juvenile Sexual Offense Recidivism Risk Assessment Tool-II.
All correlations are significant at the $p < .01$ level, except for those marked* (.05 level).

Table 4.10

Correlations Between the VRS:YSO and Subscales of the J-SOAP-II and ERASOR Categories

Measure	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
VRS:YSO Pre-tx															
1.Static	—	.63	.79	.99	.68	.82	.64	.51	.26*	.36	.19ns	.54	.37	.21*	.09ns
2.Dynamic			.97	.66	.81	.82	.57	.57	.41	.63	.27	.45	.49	.34	.13ns
Factor 1		—		.57	.78	.78	.18 ns	.68	.61	.60	.20*	.05	.58	.36	.32
Factor 2				.40	.36	.39	.75	.11ns	-.10ns	.23*	.16ns	.63	.06ns	.11ns	-.16ns
3.Total			—	.80	.83	.88	.63	.60	.42	.59	.26	.50	.49	.33	.14ns
VRS:YSO Post-tx															
4.Static				—	.69	.82	.60	.54	.51	.46	.33*	.52	.52	.31*	.40
5.Dynamic						.98	.44	.57	.72	.64	.50	.50	.67	.49	.67
Factor 1					—	.88	.29*	.68	.74	.64	.35*	.37	.66	.53	.64
Factor 2						.77	.58	.23ns	.41	.36	.51	.54	.44	.23ns	.46
6.Total						—	.51	.60	.71	.63	.48	.53	.67	.47	.64
J-SOAP-II															
7.Sexual Drive/ Preoccupation							—	.21*	.01ns	.27	.07ns	.75	.18ns	.08ns	-.12ns
8.Impulsive, Antisocial Behavior								—	.32	.55	-.02ns	.16ns	.55	.29	.12ns
9.Intervention															
10.Community Stability/ Adjustment									—	.41	.37	-.10ns	.57	.12ns	.69
										—	.30	.22*	.65	.55	.31
ERASOR															
11.Sexual Interests, Attitudes, and Behaviors											—	.08ns	.36	.11ns	.45
12.Historical Sexual Assaults												—	.11ns	.00ns	-.13ns
13.Psychosocial Functioning													—	·19	.46
14.Family/ Environmental Functioning														—	.18ns
15.Treatment															—

Note. Pearson *r* correlations. VRS:YSO = Violence Risk Scale: Youth Sexual Offender Version; Tx = treatment; Factor 1 = Antisocial Tendencies; Factor 2 = Sexual Deviancy; J-SOAP-II = Juvenile Sex Offender Assessment Protocol-II; ERASOR = Estimate of Risk of Adolescent Sexual Offense Recidivism; SPR = Structured Professional Rating; J-SORRAT-II = Juvenile Sexual Offense Recidivism Risk Assessment Tool-II.

All correlations are significant at the $p < .01$ level, except for those marked* (.05 level) or ns (not significant).

4.2.3 Postdictive validity.

Postdictive validity refers to the extent in which "test scores correlate with a criterion measure that focuses on the past" (Sapp, 2006, p. 33). As seen in Table 4.11, only the VRS:YSO Static component (pre-and-post-treatment) was significantly associated with prior sexual offending (charges and convictions). This finding was not surprising as the Static component is composed solely of historical items that capture past offending. Moreover, pre-treatment Factor 1 (Antisocial Tendencies) significantly correlated with total number of prior convictions (sexual and nonsexual).

Table 4.11

Correlations Between the VRS:YSO Scale Components and Offence History

Measure	Total Prior Sexual Charges	Total Prior Sexual Convictions	Total Prior Convictions
VRS:YSO Pre-tx[a]			
Static	.28**	.15	.11
Dynamic	.07	.02	.06
Factor 1	.08	.14	.25*
Factor 2	.00	-.12	-.14
Total	.14	.07	.09
VRS:YSO Post-tx[b]			
Static	.31*	.31*	-.04
Dynamic	.21	.21	.03
Factor 1	.17	.17	.13
Factor 2	.22	.22	-.12
Total	.25	.25	.01

Note. [a]N = 93. [b]N =52. VRS:YSO = Violence Risk Scale: Youth Sexual Offender Version; Tx = treatment; Factor 1 = Antisocial Tendencies; Factor 2 = Sexual Deviancy.
*Pearson *r* correlations are significant at the $p < .05$ level.
**Pearson *r* correlations are significant at the $p < .01$ level.

Moreover, the sample was classified into first time sexual offenders and repeaters based on their scores on Item 7 of the ERASOR (Prior adult sanctions for sexual assaults); a method that has been used by other researchers to categorize sexually offending youth into these same groups (e.g., Hersant, 2006; Worling, 2004). As expected, results from independent samples *t* test revealed that repeaters obtained significantly higher VRS:YSO Static, Dynamic, Factor 2 (Sexual Deviancy), and combined Static-Dynamic Total scores than nonrepeaters (see Table 4.12). Receiver Operating Characteristic (ROC) analysis also showed that the combined

VRS:YSO Static-Dynamic Total score significantly predicted group membership (repeaters vs. first-time offenders), AUC = .76, *SE* = .08, *p* = .002, CI = .59-.91.

Table 4.12

Comparisons between First-Time Offenders and Repeaters on the VRS:YSO Scale

Pre-tx VRS:YSO	First-Time (*n* = 83) *M* (*SD*)	Repeaters (*n* = 15) *M* (*SD*)	Total (*N* = 98) *M* (*SD*)	*t*
Static	4.90 (2.11)	7.93 (2.84)	5.37 (2.47)	-4.85***
Dynamic	26.82 (6.15)	32.93 (7.85)	27.76 (6.76)	-3.39**
F1: Antisocial Tendencies	13.28 (4.99)	15.47 (5.55)	13.61 (5.11)	-1.54
F2: Sexual Deviancy	8.75 (3.20)	11.27 (2.46)	9.13 (3.22)	-2.89**
Total	31.90 (7.51)	40.87 (9.98)	33.27 (8.52)	-3.32**

Note. N = 98. VRS:YSO = Violence Risk Scale: Youth Sexual Offender Version; Tx = treatment; Factor 1 = Antisocial Tendencies; Factor 2 = Sexual Deviancy.
** *p* < .01. *** *p* < .001.

Among the other risk assessment measures, Table 4.13 shows that only the J-SORRAT-II was significantly associated with prior sexual offending (charges and convictions) and total number of prior convictions (sexual and nonsexual). Of note, criminal history data was crosschecked with CPIC records for youth who reoffended only as these were the only records provided by the RCMP to the student investigator. Thus, it is possible that criminal history data was not accurately captured for some youth, and might have contributed to the observed small and nonsignificant correlations seen among measures that included dynamic risk variables (e.g., J-SOAP-II, ERASOR, and/or VRS:YSO).

Table 4.13

Correlations between the J-SOAP-II, ERASOR, J-SORRAT-II and Offence History

Measure	Total Prior Sexual Charges	Total Prior Sexual Convictions	Total Prior Convictions
J-SOAP-II	.12	.08	.16
ERASOR			
Total	.18	.03	.00
SPR[a]	.13	.04	.10
J-SORRAT-II	.23*	.22*	.20*

Note. N = 94. [a]Kendall's Tau (τ) correlations. J-SOAP-II = Juvenile Sex Offender Assessment Protocol-II; ERASOR = Estimate of Risk of Adolescent Sexual Offense Recidivism; SPR = Structured Professional Rating; J-SORRAT-II = Juvenile Sexual Offense Recidivism Risk Assessment Tool-II. *Pearson *r* correlations are significant at the *p* < .05 level.

4.2.4 Predictive validity.

Predictive validity refers to the "degree of correlation between the scores on a test and some other measure that the test is designed to predict" (Sapp, 2006, p.57), which in this case is recidivism. Youth were followed for an average of 11.83 years (*SD* = 3.42, range = 3.89-17.41) starting from their first contact with the community post-adjudication (i.e., release from custody or commencement of a community sentence). Recidivism data were obtained on March 1, 2012. During the follow-up period, 8.0% of youth (*n* = 8) were convicted of a sexual offence, 24.0% (*n* = 24) for any violent (sexual and nonsexual) offence, and 37.0% (*n* = 37) for a general (any) offence during the follow-up period.

Correlation coefficients for the VRS:YSO scale components.

Table 4.14 shows that only the pre-and-post-treatment VRS:YSO Static component and pre-treatment combined Static-Dynamic Total were significantly associated with sexual recidivism. The pre-treatment combined Static-Dynamic Total, individual components (Static and Dynamic), and Factor 1 (Antisocial Tendencies) had significant associations with violent (sexual and nonsexual) recidivism. Furthermore, the post-treatment Dynamic component, Factor 1 (Antisocial Tendencies), and combined Static-Dynamic Total were significantly associated with binary violent outcome. Lastly, pre-and-post-treatment Static-Dynamic Total, individual components (Static and Dynamic), and Factor 1 (Antisocial Tendencies) were significantly associated with general (any) recidivism.

Table 4.14

Correlations between the VRS:YSO Scale Components and Recidivism

Measure[a]	Total Sexual Convictions	Total Violent Convictions (S+NS)	Total (Any) Convictions
VRS:YSO Pre-tx[c]			
Static	.29**	.27**	.26*
Dynamic	.14	.26*	.27**
Factor 1	.14	.35**	.34**
Factor 2	.06	.04	.03
Total	.20*	.27**	.29**
VRS:YSO Post-tx[d]			
Static	.28*	.08	.24
Dynamic	.17	.23	.46**
Factor 1	.16	.33*	.47**
Factor 2	.13	.02	.30*
Total	.21	.20	.43**
Measure[b]	Y/N Sexual Convictions	Y/N Violent Convictions (S+NS)	Y/N (Any) Convictions
VRS:YSO Pre-tx[c]			
Static	.29**	.30**	.31**
Dynamic	.14	.25*	.28**
Factor 1	.14	.32**	.38**
Factor 2	.06	.01	-.03
Total	.20*	.28**	.31**
VRS:YSO Post-tx[d]			
Static	.28*	.21	.37**
Dynamic	.17	.31*	.44**
Factor 1	.16	.39**	.50**
Factor 2	.13	.09	.19
Total	.21	.30*	.44**

Note. [a]Pearson *r* correlations. [b]Point-biserial r_{pb} correlations. [c]N = 98. [d]N = 54.
VRS:YSO = Violence Risk Scale: Youth Sexual Offender Version; Tx = treatment;
Factor 1 = Antisocial Tendencies; Factor 2 = Sexual Deviancy; Y/N = Yes/No;
S = sexual; NS = nonsexual.
*Correlations are significant at the $p < .05$ level.
**Correlations are significant at the $p < .01$ level.

The empirical relationship between each of the pre-treatment *risk variables* (static and dynamic) and sexual recidivism was also examined. Table 4.15 indicates that only one risk variable was significantly associated to sexual reconviction, namely Instability of family upbringing (S3).

Table 4.15

Correlations between VRS:YSO Pre-Treatment Risk Variables and Sexual Recidivism

Dynamic Risk Variable	Y/N Sexual Convictions
S1. Early onset of serious antisocial behaviors	.17
S2. Criminality	.12
S3. Instability of family upbringing	.22*
S4. Prior sex offences	-.05
S5. Unrelated victims	.18
S6 Number and gender of victims	.13
D1. Sexually deviant lifestyle pattern	.10
D2. Sexual compulsivity	.03
D3. Offence planning	-.07
D4. Callous and unemotional traits	.17
D5. Cognitive distortions	.03
D6. Interpersonal aggression	.13
D7. Emotional control	.04
D8. Insight	.13
D9. Substance abuse	.04
D10. Community support	.07
D11. Return to high-risk situations	.01
D12. Sexual offending cycle	.12
D13. Impulsivity	.09
D14. Noncompliance with community supervision	.13
D15. Treatment noncompliance	.09
D16. Deviant sexual interests	.03
D17. Intimacy skills deficits	.04
E18. Poor parent-child interaction	.08
E19. Family stress	.10

Note. S = Static; D = Dynamic; E = Experimental; Y/N = Yes/No.
*Point-biserial r_{pb} correlations are significant at the $p < .05$ level.

Correlation coefficients for the J-SOAP-II, ERASOR, and J-SORRAT-II.

Table 4.16 demonstrates that the J-SOAP-II Static component and Total, as well as J-SORRAT-II Total were significantly associated with sexual reconvictions. The J-SOAP-II Total (including Static and Dynamic components) and ERASOR's Total (and SPR) had significant associations with violent (sexual and nonsexual) and general (any) reconvictions. Lastly, the J-SORRAT-II was significantly associated with both binary criminal outcomes.

Table 4.16

Correlations between the J-SOAP-II, ERASOR, J-SORRAT-II and Recidivism

Measure[a]	Total Sexual Convictions	Total Violent Convictions (S+NS)	Total (Any) Convictions
J-SOAP-II[d]			
Static	.25*	.30**	.31**
Dynamic	.08	.21*	.31**
Total	.20*	.31**	.36**
ERASOR[d]			
Total	.16	.30**	.40**
SPR[c]	.17	.22*	.27**
J-SORRAT-II[e]	.34**	.20	.14
Measure[b]	Y/N Sexual Convictions	Y/N Violent Convictions (S+NS)	Y/N (Any) Convictions
J-SOAP-II[d]			
Static	.25*	.30**	.27**
Dynamic	.08	.19	.33**
Total	.20*	.29**	.35**
ERASOR[d]			
Total	.16	.27**	.37**
SPR[c]	.17	.21*	.27**
J-SORRAT-II[e]	.34**	.30**	.23*

Note. [a]Pearson *r* correlations. [b]Point-biserial r_{pb} correlations. [c]Kendall's Tau (τ)correlations. [d]*N* =100. [e]N = 99. Y/N = Yes/No; S = sexual; NS = nonsexual. J-SOAP-II = Juvenile Sex Offender Assessment Protocol-II; ERASOR = Estimate of Risk of Adolescent Sexual Offense Recidivism; SPR = Structured Professional Rating; J-SORRAT-II = Juvenile Sexual Offense Recidivism Risk Assessment Tool-II.

*Correlations are significant at the $p < .05$ level.

**Correlations are significant at the $p < .01$ level.

Receiver Operating Characteristic (ROC) analyses for the VRS:YSO scale.

ROC analysis is a recommended method for evaluating the accuracy of violence prediction as it is unaffected by base rates and biases for certain prediction outcomes (Mossman, 1994; Rice & Harris, 2005). It depicts detection (i.e., true positive rate or TPR) and false alarm rates (i.e., false positive rate or FPR) at different decision thresholds of the diagnostic measure. The ratio of TPR to FPR is calculated at each threshold; the points are connected plotting a curve. The area under the ROC curve (AUC) is a common method for communicating predictive accuracy. For the present analyses, the predictor variable was the VRS:YSO (Total, individual components, and extracted factors) and the criterion variable was dichotonomous

(recidivist/nonrecidivist), based on whether participants had a new conviction for a sexual, violent (sexual and nonsexual), and general (any) offences.

Consistent with results from correlational analyses, Table 4.17 reveals that only the VRS:YSO Static component (pre-and-post-treatment) significantly predicted sexual recidivism (AUC's = .77 and .79). Pre-and-post-treatment combined Static-Dynamic Total, Dynamic component, and Factor 1 (Antisocial Tendencies) significantly predicted violent (sexual and nonsexual) recidivism while only the pre-treatment Static component predicted this outcome (AUC's = .67-.78). Moreover, the VRS:YSO pre-and-post-treatment combined Static-Dynamic Total, individual components, and Factor 1 (Antisocial Tendencies) significantly predicted general (any) recidivism (AUC's = .66-.80). Lastly, pre-and-post-treatment combined Static-Dynamic Total approached but did not attain statistical significance in relation to sexual recidivism.

Table 4.17

Area Under the ROC Curve (AUC) for the VRS:YSO Scale Components

Measure	Sexual Recidivism			Violent (S + NS) Recidivism			General (Any) Recidivism		
	AUC (*SE*)		95% CI	AUC (*SE*)		95% CI	AUC (*SE*)		95% CI
VRS:YSO Pre-tx[a]									
Static	.77*	.08	.62-.93	.68**	.06	.56-.80	.67**	.06	.56-.78
Dynamic	.64	.10	.45-.83	.67*	.06	.56-.78	.66**	.05	.56-.77
Factor 1	.66	.08	.51-.82	.73**	.06	.63-.84	.73***	.05	.63-.83
Factor 2	.55	.11	.33-.76	.48	.07	.34-.61	.48	.06	.36-.60
Total	.69	.10	.50-.87	.69**	.06	.57-.80	.68**	.05	.58-.79
VRS:YSO Post-tx[b]									
Static	.79*	.08	.63-.95	.63	.09	.46-.79	.70*	.08	.54-.85
Dynamic	.73	.09	.56-.90	.73*	.07	.59-.87	.77**	.07	.63-.91
Factor 1	.69	.08	.54-.84	.78**	.07	.65-.91	.80***	.07	.67-.94
Factor 2	.64	.16	.34-.95	.55	.09	.37-.73	.58	.09	.42-.75
Total	.75	.09	.58-.92	.72*	.07	.58-.87	.77**	.07	.63-.91

Note. [a]N = 98. [b]N = 54. S = sexual; NS = nonsexual; AUC = area under the curve; *SE* = standard of error; CI = confidence interval. VRS:YSO = Violence Risk Scale: Youth Sexual Offender Version; Tx = treatment; Factor 1 = Antisocial Tendencies; Factor 2 = Sexual Deviancy.
$^{*}p < .05$. $^{**}p < .01$. $^{***}p < .001$.

Receiver Operating Characteristic (ROC) analyses for the J-SOAP-II, ERASOR, and J-SORRAT-II.

Consistent with results from correlational analyses, Table 4.18 shows that only the J-SORRAT-II Total and J-SOAP-II subscale II (Impulsive, Antisocial Behavior) scores significantly predicted sexual recidivism (AUC's = .74-.76). Focusing on violent (sexual and nonsexual) recidivism, the J-SOAP-II Total (along with its Static component), subscales II (Impulsive, Antisocial Behavior) and IV (Community Stability/Adjustment), along with the ERASOR's Total and Category C (Psychosocial Functioning) significantly predicted such outcome (AUC's = .67-.74). Lastly, the J-SOAP-II Total and individual components (except for subscale I), as well as the ERASOR's Total (and summary risk rating) and Categories A (Sexual Drive/Preoccupation), C (Psychosocial Functioning), and E (Treatment) significantly predicted general (any) recidivism (AUC's = .62-.71). The remaining scale components of the J-SOAP-II and the J-SORRAT-II Total did not significantly predict any other criminal outcomes.

Table 4.18

Area Under the ROC Curve (AUC) for the J-SOAP-II, ERASOR, and J-SORRAT-II

Measure	Sexual Recidivism			Violent (S + NS) Recidivism			General (Any) Recidivism		
	AUC (*SE*)		95% CI	AUC (*SE*)		95% CI	AUC (*SE*)		95% CI
J-SOAP-II[a]									
1.Sexual Drive/ Preoccupation	.66	.08	.50-.83	.55	.07	.42-.68	.53	.06	.41-.64
2.Impulsive, Antisocial Behavior	.74*	.08	.58-.89	.74***	.05	.65-.84	.70**	.05	.60-.80
3.Intervention	.55	.10	.34-.75	.59	.07	.46-.72	.65*	.06	.54-.76
4.Community Stability/ Adjustment	.65	.10	.46-.84	.67*	.06	.55-.79	.69**	.05	.59-.79
Static	.75*	.09	.58-.92	.72**	.05	.61-.82	.66**	.06	.56-.77
Dynamic	.56	.09	.38-.74	.62	.06	.50-.75	.69**	.05	.58-.79
Total	.69	.08	.54-.84	.70**	.06	.59-.81	.71**	.05	.60-.81
ERASOR[a]									
1.Sexual Interests, Attitudes, and Behaviors	.58	.12	.34-.81	.59	.07	.44-.73	.62*	.06	.50-.74
2.Historical Sexual Assaults	.56	.11	.34-.78	.54	.07	.40-.68	.54	.06	.42-.66
3.Psychosocial Functioning	.66	.10	.46-.86	.69**	.06	.57-.81	.71**	.05	.60-.82
4.Family/ Environmental Functioning	.47	.12	.25-.70	.60	.06	.48-.72	.59	.06	.47-.70
5.Treatment	.62	.10	.42-.82	.59	.07	.46-.72	.67**	.06	.56-.78
Total	.64	.09	.46-.81	.67*	.06	.54-.79	.71**	.05	.60-.81
SPR	.67	.08	.50-.83	.63	.06	.50-.76	.65*	.06	.54-.76
J-SORRAT-II[b]	.76*	.11	.55-.96	.62	.08	.47-.77	.59	.07	.47-.71

Note. . [a]N =100. [b]N = 99. AUC = area under the curve; *SE* = standard of error; CI = confidence interval. J-SOAP-II = Juvenile Sex Offender Assessment Protocol-II; ERASOR = Estimate of Risk of Adolescent Sexual Offense Recidivism; SPR = Structured Professional Rating; J-SORRAT-II = Juvenile Sexual Offense Recidivism Risk Assessment Tool-II.

*$p < .05$. **$p < .01$. ***$p < .001$.

Survival analyses for the VRS:YSO scale.

Cox regression survival analysis allows for the prediction of criminal outcome while controlling for differences in follow-up time and covariates (e.g., offence history). Survival time for each criminal outcome (i.e., sexual, violent, and general) was calculated by subtracting the date of first conviction for each outcome variable from the date youth engaged with CYS–YOP (i.e., time spent in the community until youth recidivated). If a youth did not recidivate, then survival time was the time length between the date a youth encountered CYS–YOP and the date the criminal records were accessed or (for non-recidivists) attempted to be accessed (i.e., total follow-up time). A survival graph plots the course of survival over a specified time for the sample and depicts the relative proportion of participants who recidivate out of the total sample at various time intervals (Tabachnick, 2007).

Youth were divided into two groups based on whether their VRS:YSO pre-treatment Total score (range = 14.2 to 54.0) fell below or above the median (*Mdn* = 32.50). Chi-square analyses revealed that youth who scored above the median reoffended violently (sexual and nonsexual) and generally (any) at a proportionately higher rate than youth who scored below the median, χ^2 (1) = 4.60, $p < .05$, $\varphi = .22$ and χ^2 (1) = 6.32, $p < .05$, $\varphi = .25$, respectively. The sexual recidivism rate was not examined statistically due to two cells having small-expected frequency, which is a requirement for using the chi-square test (Howell, 2002; see Table 4.19).

Table 4.20 reveals that VRS:YSO grouping significantly predicted violent (sexual and nonsexual) and general (any) recidivism. Kaplan-Meier survival analyses were used to estimate recidivism rates over time for youths in each VRS:YSO group. Specifically, the survival rate for youth who scored above the median was significantly shorter than for those who scored below the median for violent, Log Rank χ^2 (1) = 5.290, $p = .021$ (*M* survival time: 12.76 vs. 15.19, respectively), and general recidivism, Log Rank χ^2 (1) = 6.396, $p = .011$ (*M* survival time: 10.76 vs. 13.89, respectively; see Figures 4.2 and 4.3).

Table 4.19

Cross-Tabulation for Criminal Outcome by VRS:YSO Group

VRS:YSO Group	Criminal Outcome (%)		
	Sexual	Violent (S + NS)	General (Any)
Below Mdn (*n* = 49)	3 (6.1)	7 (14.3)	12 (24.5)
Above Mdn (*n* = 49)	5 (10.2)	16 (32.7)	24 (49.0)

Note. N = 98. VRS:YSO = Violence Risk Scale: Youth Sexual Offender Version; Mdn = Median; S = sexual; NS = nonsexual.

Table 4.20

Cox Regression Survival Analysis for VRS:YSO Groups: Prediction of Criminal Outcome

Variable	*B*	*SE*	Wald	*p*	e^B	95% CI	
						LL	*UL*
Violent (S + NS) recidivism							
VRS:YSO grouping	-1.005	.455	4.88	.027	0.366	0.150	0.893
General (Any) recidivism							
VRS:YSO grouping	-0.870	.355	6.01	.014	0.419	0.209	0.840

Note. N = 98. VRS:YSO = Violence Risk Scale: Youth Sexual Offender Version; Group = below/above median VRS:YSO pre-treatment Total score; *SE* = standard of error; CI = confidence interval; *LL* = lower limit; *UL* = upper limit.

Figure 4.2

Cumulative Proportion of Youth Violently (Sexual and Nonsexual) Reoffending by VRS:YSO Group.

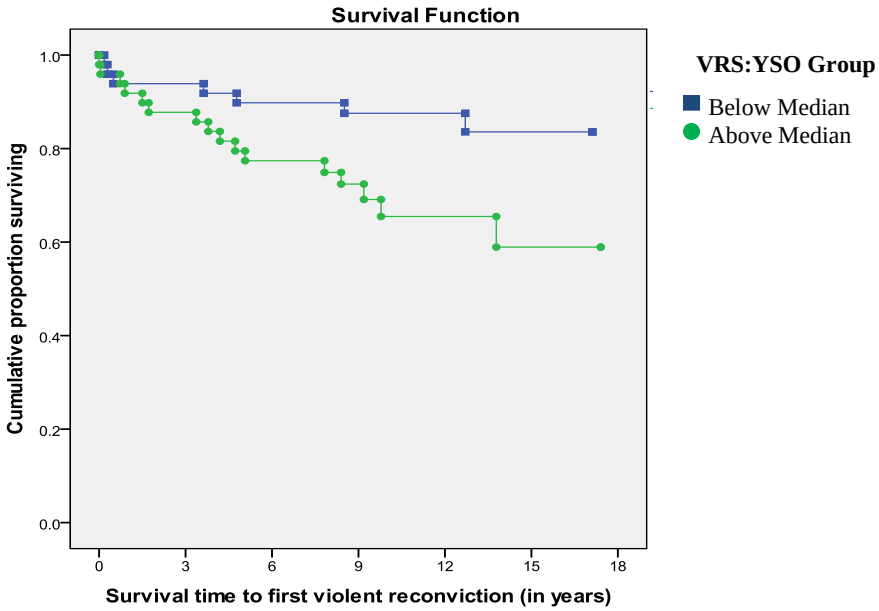
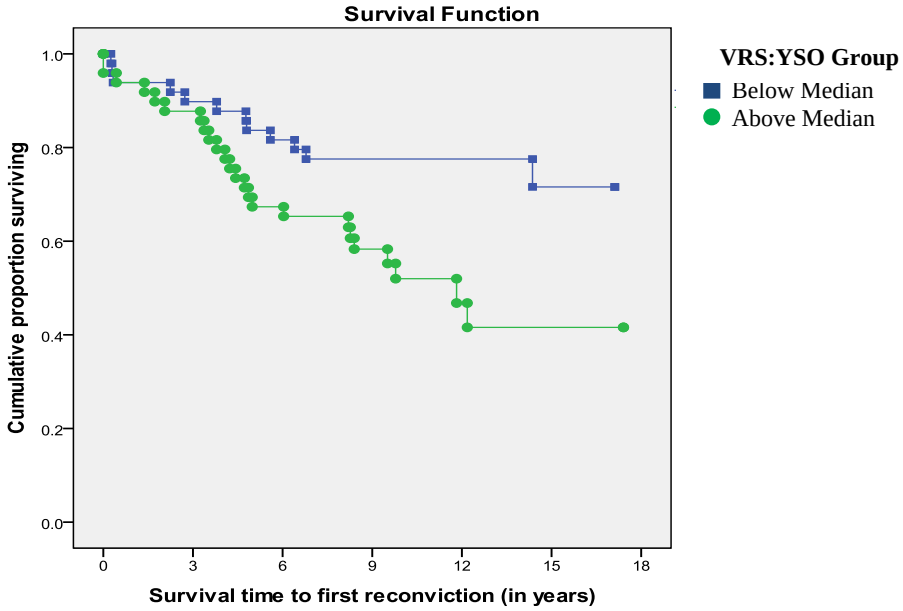


Figure 4.3

Cumulative Proportion of Youth Generally (Any) Reoffending by VRS:YSO Group.



Survival analyses for the ERASOR.

Survival graphs were also created for the ERASOR as youth were rated as low, moderate, or high risk for sexual violence (i.e., SPR); thus, statistical comparisons were made among individual survival curves. Figure 4.4 shows the cumulative proportion of youth surviving over the follow-up period for each risk rating on the ERASOR in relation to sexual reoffending. Pairwise comparisons revealed that the survival rate for the low-risk group was significantly different from the high-risk group (Log Rank χ^2 (1) = 4.164, p = .041). That is, the failure rate for the high-risk group was significantly higher than the low-risk group.

Figure 4.4

Cumulative Proportion of Youth Sexually Reoffending by ERASOR Structured Professional Rating (SPR).

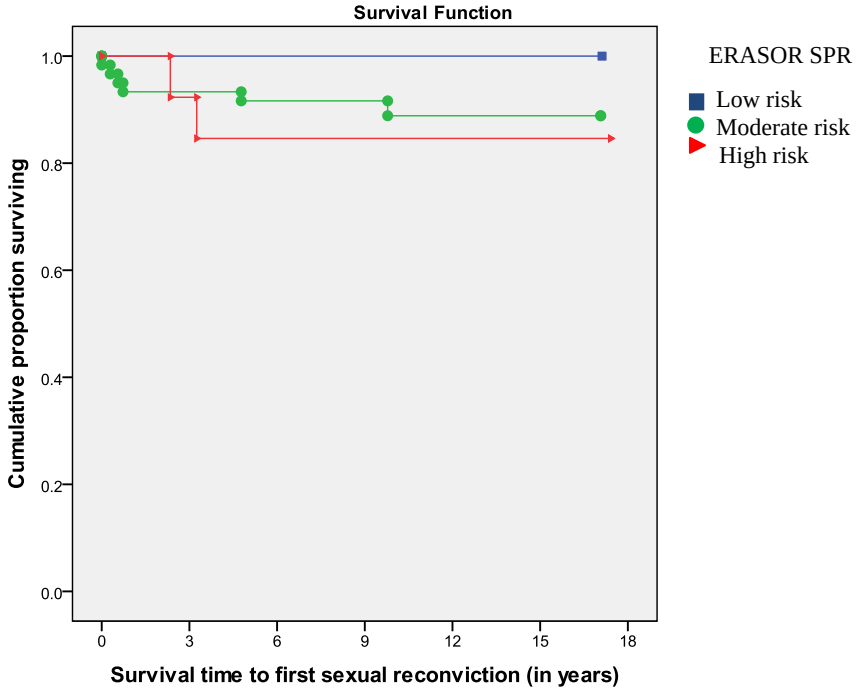


Figure 4.5 shows the cumulative proportion of youth surviving over the follow-up period for each of the ERASOR's risk level in relation to violent (sexual and nonsexual) reoffending. Pairwise comparisons revealed that the survival time for the high-risk group (M = 11.54) was significantly shorter than the low-risk group (M = 15.81), Log Rank χ^2 (1) = 5.120, p = .024. Lastly, Figure 4.6 presents the cumulative proportion of youth surviving over the follow-up period for the ERASOR risk groups in relation to general (any) reoffending. Pairwise

comparisons revealed that the high-risk group had a significantly shorter survival time than the low-risk group (*M*'s = 9.36 vs. 14.78, respectively), Log Rank χ^2 (1) = 7.467, *p* = .006.

Figure 4.5

Cumulative Proportion of Youth Violently (Sexual and Nonsexual) Reoffending by ERASOR Structured Professional Rating (SPR).

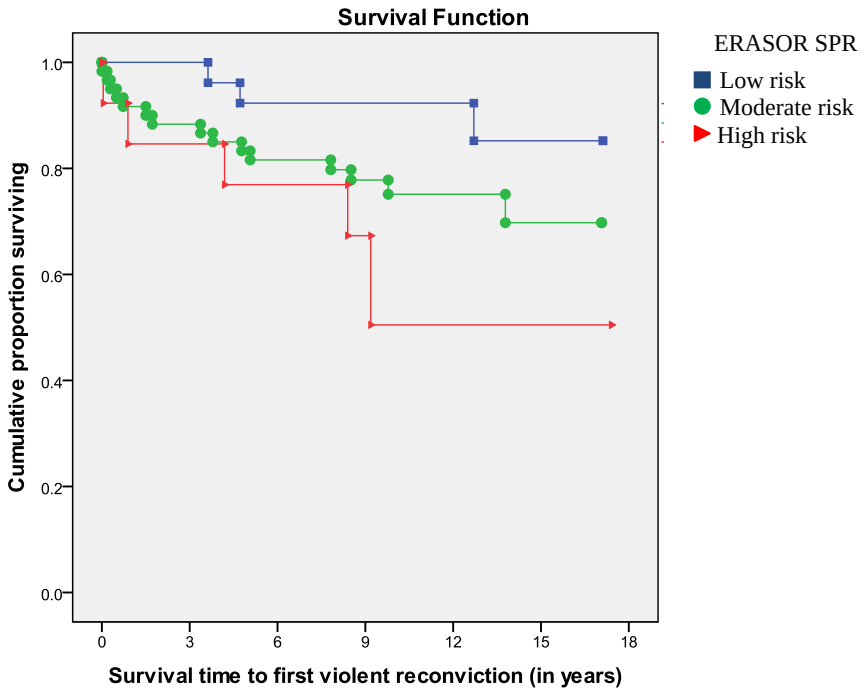
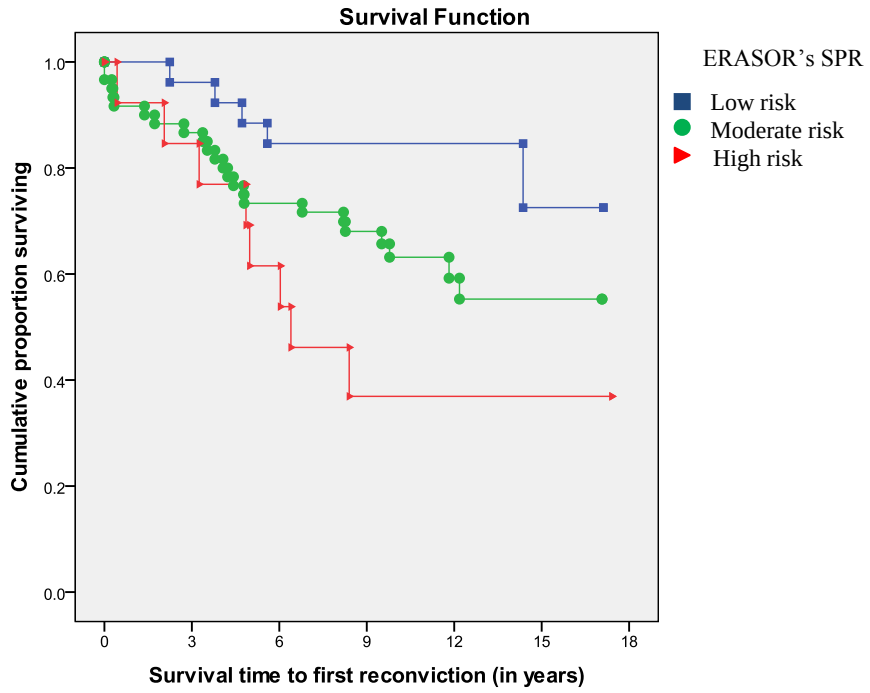


Figure 4.6

Cumulative Proportion of Youth Reoffending (Generally) by ERASOR Structured Professional Rating (SPR).



Therapeutic (dynamic) change in the VRS:YSO scale and recidivism.

As expected, the pre-treatment VRS:YSO Static-Dynamic combined Total score (M = 34.50, SD = 8.60) was significantly higher than the post-treatment VRS:YSO Static-Dynamic combined Total score (M = 27.59, SD = 8.60), $t_{0.25}$ (52) = 11.71, $p < .001$, d = 0.57. The effect size of this difference is considered medium in magnitude according to Cohen's guidelines for interpreting effect sizes (Cohen, 1988). Therapeutic change was conceptualized as pre-treatment total minus post-treatment total for each dynamic risk item. Values were then added to obtain a total change score. The magnitude of therapeutic change was expected to be inversely associated to criminal outcome, particularly in relation to sexual recidivism. Table 4.21 shows that the VRS:YSO therapeutic change score was not significantly associated with any type of criminal outcome though the correlations were in the expected direction despite the relatively small sample size (see section on power analysis).

Table 4.21

Predictive Validity for the VRS:YSO Therapeutic Change Score and Recidivism

	Y/N Sexual Convictions			Y/N Violent (S + NS) Convictions			Y/N General (Any) Convictions		
	r_{pb}	AUC	95% CI	r_{pb}	AUC	95% CI	r_{pb}	AUC	95% CI
VRS: YSO Therapeutic Change[a]	-.02	.43	[.11, .76]	-.13	.40	[.23, .57]	-.18	.39	[.22, .55]

Note. [a]*N* = 53 of youth who attended treatment. Only one youth did not have a pre-treatment score from the total sample of youth who attended treatment. Y/N = Yes/No; S = sexual; NS = nonsexual; r_{pb} = Point-biserial correlation; AUC = area under the curve; CI = confidence interval. VRS:YSO = Violence Risk Scale: Youth Sexual Offender Version.

4.2.5 Incremental validity of the VRS:YSO scale components.

Does the dynamic component of the VRS:YSO add to the prediction of recidivism over and above its static component?

A series of Cox regression survival analyses were conducted to examine whether the Dynamic component of the VRS:YSO added to the prediction of recidivism over and above the Static component of the scale. As seen in Table 4.22, the post-treatment Dynamic component of the VRS:YSO significantly predicted general (any) recidivism, and violent (sexual and nonsexual) recidivism at a trend level (p = .064), but not sexual recidivism, after controlling for the Static component of the scale. The pre-treatment Static component uniquely predicted sexual recidivism. The latter results suggested that other unmeasured factors in the sample partially contributed to the prediction of sexual recidivism. Despite the relatively small sample size, results concerning the unique value of the pre-treatment Dynamic component for violent (sexual and nonsexual) and general (any) recidivism were in the expected direction.

Table 4.22

Cox Regression Survival Analysis: Incremental Validity for Individual Components of the VRS:YSO in the Prediction of Recidivism

Measure	*B*	*SE*	Wald	*p*	e^B	95% CI *LL*	95% CI *UL*
Sexual recidivism							
Pre-tx							
Block 1							
Static	.354	.128	7.59	.006	1.424	1.107	1.831
Block 2							
Static	.412	.184	4.98	.026	1.510	1.052	2.167
Dynamic	-.033	.074	0.21	.651	0.967	0.837	1.117
Post-tx							
Block 1							
Static	.445	.208	4.57	.032	1.560	1.038	2.345
Block 2							
Static	.565	.321	3.09	.079	1.759	0.937	3.302
Dynamic	-.052	.103	0.25	.616	0.950	0.776	1.162
Violent (S + NS) recidivism							
Pre-tx							
Block 1							
Static	.248	.078	10.17	.001	1.282	1.100	1.494
Block 2							
Static	.178	.100	3.14	.076	1.195	0.981	1.455
Dynamic	.045	.041	1.18	.278	1.046	0.965	1.133
Post-tx							
Block 1							
Static	.169	.105	2.58	.108	1.184	0.964	1.455
Block 2							
Static	-.075	.162	0.21	.644	0.928	0.676	1.274
Dynamic	.112	.060	3.44	.064	1.118	0.994	1.259
General (Any) recidivism							
Pre-tx							
Block 1							
Static	.195	.064	9.28	.002	1.215	1.072	1.377
Block 2							
Static	.123	.082	2.22	.137	1.130	0.962	1.328
Dynamic	.045	.033	1.88	.171	1.046	0.981	1.115
Post-tx							
Block 1							
Static	.286	.102	7.88	.005	1.331	1.090	1.626
Block 2							
Static	.060	.155	0.15	.699	1.062	0.784	1.437
Dynamic	.100	.052	3.72	.054	1.105	0.998	1.223

Note. Pre-tx N = 98. Post-tx N = 54. VRS:YSO = Violence Risk Scale: Youth Sexual Offender Version; Tx = treatment; S = sexual; NS = nonsexual; *SE* = standard of error; CI = confidence interval; *LL* = lower limit; *UL* = upper limit.

Does the VRS:YSO therapeutic change score add to the prediction of recidivism over and above individual components of the scale?

The therapeutic change score is based on potential changes on dynamic risk variables resulting from attendance to treatment. As a result, it is important to assess whether positive therapeutic changes are associated with a decrease on recidivism beyond the *static risk variables,* as these cannot be targeted in treatment, as well as the Dynamic component of the scale (i.e., combined Static-Dynamic component). A series of Cox regression survival analyses were carried out to examine the incremental validity of the therapeutic change score. Table 4.23 reveals a trend where the therapeutic change score may uniquely add to the prediction of general (any) recidivism after controlling for the combined Static-Dynamic component of the scale (p = .072). Of note, the relationship between therapeutic change and recidivism risk was in the expected direction. That is, change (e^B magnitude) was associated with non-significant reductions in recidivism, although the relationship appeared to be stronger for higher base rate outcomes. Lastly, the pre-treatment combined Static-Dynamic component uniquely predicted violent (sexual and nonsexual) and general (any) recidivism.

Table 4.23

Cox Regression Survival Analysis: Incremental Validity for the VRS:YSO Therapeutic Change Score in the Prediction of Recidivism

VRS:YSO	*B*	*SE*	Wald	*p*	e^B	95% CI	
						LL	*UL*
Sexual recidivism							
Block 1							
Pre-tx Total	.100	.066	2.33	.127	1.105	0.972	1.257
Block 2							
Pre-tx Total	.099	.064	2.38	.123	1.104	0.973	1.253
Therapeutic Change	-.037	.128	0.09	.771	0.963	0.750	1.238
Violent (S + SN) recidivism							
Block 1							
Pre-tx Total	.060	.032	3.48	.062	1.062	0.997	1.131
Block 2							
Pre-tx Total	.060	.030	3.87	.049	1.062	1.000	1.127
Therapeutic Change	-.079	.066	1.42	.234	0.924	0.811	1.052
General (Any) recidivism							
Block 1							
Pre-tx Total	.082	.030	7.45	.006	1.085	1.023	1.151
Block 2							
Pre-tx Total	.085	.029	8.81	.003	1.089	1.029	1.152
Therapeutic Change	-.098	.054	3.24	.072	0.907	0.815	1.009

Note. N = 53. VRS:YSO = Violence Risk Scale: Youth Sexual Offender Version; Tx = treatment; S = sexual; NS = nonsexual; *SE* = standard of error; CI = confidence interval*; LL* = lower limit; *UL* = upper limit.

4.2.6 Incremental validity: Other violence risk assessment measures.

Does the dynamic component of the J-SOAP-II add to the prediction of recidivism over and above its static component?

The J-SOAP-II has four subscales made up of *static* and *dynamic risk variables*. Subscales I (Sexual Drive/Preoccupation) and II (Impulsive, Antisocial Behaviour) form the static component while Subscales III (Intervention) and IV (Community Stability/Adjustment) form the dynamic component. Consistent with results for the VRS:YSO, Table 4.24 shows that the Dynamic component of the J-SOAP-II (Subscales III and IV) significantly predicted general (any) recidivism after controlling for the Static component of the scale (Subscales I and II).

Furthermore, the Static component uniquely predicted sexual and violent (sexual and nonsexual) recidivism.

Table 4.24

Cox Regression Survival Analysis: Incremental Validity for Individual Components of the J-SOAP-II in the Prediction of Recidivism

Measure	*B*	*SE*	Wald	*p*	e^B	95% CI	
						LL	*UL*
Sexual recidivism							
Block 1							
Static (I-II)	.169	.069	5.90	.015	1.184	1.033	1.357
Block 2							
Static (I-II)	.179	.081	4.93	.026	1.196	1.021	1.401
Dynamic (III-IV)	-.024	.095	0.06	.800	0.976	0.811	1.175
Violent (S + SN) recidivism							
Block 1							
Static (I-II)	.122	.039	9.90	.002	1.130	1.047	1.220
Block 2							
Static (I-II)	.105	.043	5.98	.014	1.110	1.021	1.207
Dynamic (III-IV)	.050	.055	0.84	.359	1.052	0.944	1.171
General (Any) recidivism							
Block 1							
Static (I-II)	.085	.031	7.46	.006	1.089	1.024	1.157
Block 2							
Static (I-II)	.045	.034	1.82	.178	1.046	0.980	1.117
Dynamic (III-IV)	.113	.044	6.75	.009	1.120	1.028	1.219

Note. N = 100. J-SOAP-II = Juvenile Sex Offender Assessment Protocol-II (J-SOAP-II); Static component (Subscale I: Sexual Drive/Preoccupation + Subscale II: Impulsive, Antisocial Behaviour); Dynamic component (Subscale III: Intervention + Subscale IV: Community Stability/Adjustment); *SE* = standard of error; CI = confidence interval; *LL* = lower limit; *UL* = upper limit.

Does the ERASOR's total score add to the prediction of recidivism over and above the SPR?

The ERASOR was developed using the empirically guided clinical judgement approach; assessors determine a youth's overall risk rating for sexual violence (low, moderate, or high) based on their appraisal of risk factors present. Researchers have examined the utility of deriving at a total score and structured professional rating (SPR) in relation to the prediction of recidivism (e.g., Morton, 2003, Viljoen et al., 2009, Worling et al., 2012) as both ways of communicating risk should be associated (e.g., a low total score would be consistent with a low-risk rating). In the present study, the ERASOR's Total score and SPR were significantly associated (τ = .65, p <

.001). Given that the SPR is consistent with the measure's risk assessment framework, it was examined whether using the total score added to the prediction of recidivism after controlling for the SPR. Table 4.25 shows that the ERASOR's Total score significantly added to the prediction of general (any) recidivism over and above the ERASOR SPR. Such finding implies possible value in using the total score to communicate risk for violence. The SPR, however, did not uniquely predict any criminal outcome after controlling for the ERASOR's Total score.

Table 4.25

Cox Regression Survival Analysis: Incremental Validity for the ERASOR's Total Score in the Prediction of Recidivism

Measure	*B*	*SE*	Wald	*p*	e^B	95% CI	
						LL	*UL*
Sexual recidivism							
Block 1							
SPR	1.059	.581	3.32	.068	2.882	0.923	8.999
Block 2							
SPR	.900	.946	0.91	.341	2.459	0.385	15.688
Total	.017	.081	0.05	.832	1.017	0.868	1.192
Violent (S + SN) recidivism							
Block 1							
SPR	.705	.337	4.38	.036	2.025	1.046	3.921
Block 2							
SPR	.161	.524	0.94	.759	1.174	0.421	3.278
Total	.064	.047	1.84	.175	1.066	0.972	1.170
General (Any) recidivism							
Block 1							
SPR	.723	.272	7.08	.008	2.061	1.210	3.510
Block 2							
SPR	-.040	.450	0.01	.930	0.961	0.398	2.323
Total	.086	.041	4.52	.034	1.090	1.007	1.180

Note. N = 100. ERASOR = Estimate of Risk of Adolescent Sexual Offense Recidivism; SPR = structured professional rating; S = sexual; NS = nonsexual; *SE* = standard of error; CI = confidence interval; *LL* = lower limit; *UL* = upper limit.

Is there a value in using more than one risk assessment measure to predict recidivism?

Cox regression survival analyses were used to examine whether the use of more than one risk assessment measure added to the prediction of recidivism. As seen in Table 4.26, only the J-SORRAT-II uniquely predicted sexual recidivism; indeed, it was the most robust predictor compared to the J-SOAP-II Total, ERASOR Total, and pre-treatment VRS:YSO Static-Dynamic combined scores. On the contrary, no specific risk assessment measure appeared to outperform each other for the prediction of violent (sexual and nonsexual) and general (any) recidivism.

Table 4.26

Cox Regression Survival Analysis for the J-SOAP-II, ERASOR, VRS:YSO, and J-SORRAT-II: Prediction of Recidivism

Measures	*B*	*SE*	Wald	*p*	e^B	95% CI	
						LL	*UL*
Sexual recidivism							
J-SOAP-II	.080	.089	0.81	.367	1.083	0.910	1.289
ERASOR	.038	.088	0.19	.664	1.039	0.875	1.234
VRS:YSO	-.083	.096	0.75	.388	0.920	0.762	1.111
J-SORRAT-II	.353	.151	5.44	.020	1.424	1.058	1.915
Violent (S + NS) recidivism							
J-SOAP-II	.052	.048	1.20	.273	1.054	0.960	1.157
ERASOR	.015	.048	0.10	.747	1.015	0.925	1.115
VRS:YSO	-.001	.054	0.00	.992	0.999	0.900	1.110
J-SORRAT-II	.132	.089	2.22	.136	1.141	0.959	1.358
General (Any) recidivism							
J-SOAP-II	.043	.038	1.26	.261	1.043	0.969	1.124
ERASOR	.048	.038	1.57	.210	1.049	0.974	1.130
VRS:YSO	-.010	.042	0.05	.817	0.990	0.913	1.075
J-SORRAT-II	.069	.079	0.75	.386	1.071	0.917	1.252

Note. N = 98. J-SOAP-II = Juvenile Sex Offender Assessment Protocol-II; ERASOR = Estimate of Risk of Adolescent Sexual Offense Recidivism; VRS:YSO = Violence Risk Scale: Youth Sexual Offender Version; J-SORRAT-II = Juvenile Sexual Offense Recidivism Risk Assessment Tool-II; S = sexual; NS = nonsexual; *SE* = standard of error; CI = confidence interval; *LL* = lower limit; *UL* = upper limit.

Tables 4.27 to 4.29 reveal that the J-SORRAT-II Total significantly added to the prediction of sexual recidivism over and above the J-SOAP-II, ERASOR, and VRS:YSO Total scores. The J-SORRAT-II Total also significantly added to the prediction of violent (sexual and nonsexual) recidivism after controlling only for the ERASOR Total score. Lastly, the J-SORRAT-II Total did not significantly add to the prediction of general (any) recidivism over and above the other risk assessment measures; whereas each of those measures uniquely predicted this outcome.

Table 4.27

Cox Regression Survival Analysis: Incremental Validity for the J-SOAP-II and J-SORRAT-II in the Prediction of Recidivism

Measure	*B*	*SE*	Wald	*p*	e^B	95% CI	
						LL	*UL*
Sexual recidivism							
Block 1							
J-SOAP-II	.091	.044	4.24	.039	1.095	1.004	1.194
Block 2							
J-SOAP-II	.043	.052	0.68	.409	1.044	0.943	1.156
J-SORRAT-II	.270	.111	5.96	.015	1.310	1.055	1.628
Violent (S + NS) recidivism							
Block 1							
J-SOAP-II	.082	.026	9.87	.002	1.085	1.031	1.142
Block 2							
J-SOAP-II	.062	.029	4.42	.035	1.064	1.004	1.127
J-SORRAT-II	.134	.074	3.33	.068	1.143	0.990	1.321
General (Any) recidivism							
Block 1							
J-SOAP-II	.073	.020	12.83	.000	1.076	1.034	1.119
Block 2							
J-SOAP-II	.065	.023	8.04	.005	1.067	1.020	1.116
J-SORRAT-II	.055	.069	0.64	.425	1.057	0.923	1.209

Note. N = 99. J-SOAP-II = Juvenile Sex Offender Assessment Protocol-II (J-SOAP-II); J-SORRAT-II = Juvenile Sexual Offense Recidivism Risk Assessment Tool-II; S = sexual; NS = nonsexual; *SE* = standard of error; CI = confidence interval; *LL* = lower limit; *UL* = upper limit.

Table 4.28

Cox Regression Survival Analysis: Incremental Validity for the ERASOR and J-SORRAT-II in the Prediction of Recidivism

Measure	*B*	*SE*	Wald	*p*	e^B	95% CI	
						LL	*UL*
Sexual recidivism							
Block 1							
ERASOR	.079	.049	2.60	.107	1.082	0.983	1.192
Block 2							
ERASOR	.035	.054	0.42	.515	1.036	0.931	1.153
J-SORRAT-II	.288	.103	7.77	.005	1.334	1.089	1.634
Violent (S + NS) recidivism							
Block 1							
ERASOR	.075	.030	6.25	.012	1.078	1.016	1.144
Block 2							
ERASOR	.054	.033	2.76	.097	1.056	0.990	1.125
J-SORRAT-II	.163	.067	5.95	.015	1.177	1.033	1.343
General (Any) recidivism							
Block 1							
ERASOR	.083	.024	11.90	.001	1.087	1.037	1.140
Block 2							
ERASOR	.073	.025	8.36	.004	1.076	1.024	1.130
J-SORRAT-II	.096	.062	2.38	.123	1.101	0.974	1.244

Note. N = 99. ERASOR= Estimate of Risk of Adolescent Sexual Offense Recidivism; J-SORRAT-II = Juvenile Sexual Offense Recidivism Risk Assessment Tool-II; S = sexual; NS = nonsexual; *SE* = standard of error; CI = confidence interval; *LL* = lower limit; *UL* = upper limit.

Table 4.29

Cox Regression Survival Analysis: Incremental Validity for the VRS:YSO and J-SORRAT-II in the Prediction of Recidivism

Measure	*B*	*SE*	Wald	*p*	e^B	95% CI	
						LL	*UL*
Sexual recidivism							
Block 1							
VRS:YSO	.084	.042	3.94	.047	1.088	1.001	1.182
Block 2							
VRS:YSO	.007	.058	0.15	.904	1.007	0.899	1.128
J-SORRAT-II	.300	.140	4.62	.032	1.350	1.027	1.775
Violent (S + NS) recidivism							
Block 1							
VRS:YSO	.078	.026	9.24	.002	1.081	1.028	1.136
Block 2							
VRS:YSO	.053	.032	2.66	.103	1.054	0.989	1.123
J-SORRAT-II	.109	.085	1.66	.198	1.115	0.945	1.317
General (Any) recidivism							
Block 1							
VRS:YSO	.064	.020	10.04	.002	1.066	1.025	1.110
Block 2							
VRS:YSO	.057	.025	5.09	.024	1.058	1.007	1.112
J-SORRAT-II	.038	.075	0.25	.618	1.038	0.896	1.203

Note. N = 98. VRS:YSO = Violence Risk Scale: Youth Sexual Offender Version; J-SORRAT-II = Juvenile Sexual Offense Recidivism Risk Assessment Tool-II; S = sexual; NS = nonsexual; *SE* = standard of error; CI = confidence interval; *LL* = lower limit; *UL* = upper limit.

4.3 Phase III Results: Relationship Among Psychopathy-Related Personality Features, Criminal and Treatment Outcomes in Youth Who Have Sexually Offended

4.3.1 Basic psychometric properties of the PCL:YV.

Descriptive statistics and interrater reliability.

Table 4.30 presents the descriptive statistics for the PCL:YV Total and Factor scores, revealing that the primary assumption of normality was largely met, with the exceptions of Factors 1 and 4 (see skewness and kurtosis). The ICC_1 (Consistency) for the PCL:YV Total score fell within the good range (0.65).

Table 4.30

Descriptive Statistics for the PCL:YV–Four-Factor Model

Measure	*M* (*SD*)	Mdn	SEM	Range	Skewness	Kurtosis
Factor 1: Interpersonal	1.64 (1.16)	1.00	0.12	6.00 (0-6)	0.94	1.43
Factor 2: Affective	2.82 (1.96)	3.00	0.20	7.00 (0-7)	0.10	-0.71
Factor 3: Behavioral	3.67 (2.30)	4.00	0.23	10.00 (0-10)	0.27	-0.47
Factor 4: Antisocial	3.32 (2.16)	3.00	0.22	9.00 (0-9)	0.95	-0.03
Total	12.87 (6.52)	11.00	0.65	26.00 (2-28)	0.49	-0.72

Note. N = 100. PCL:YV = Hare Psychopathy Checklist: Youth Version. Total scores can range from 0 to 40.

Concurrent validity of the PCL:YV and the VRS:YSO scale.

Overall, the PCL:YV Total and Factor scores were significantly correlated with the VRS:YSO pre-and-post-treatment Static, Dynamic, Factor 1 (Antisocial Tendencies), and combined Static-Dynamic scores. Three specific findings are worth highlighting. First, the size of the correlations between the VRS:YSO F1 (Antisocial Tendencies) and the PCL:YV Factors 3 and 4 (Behavioural and Antisocial features, respectively) were quite large in magnitude ($r > .70$), suggesting that these three factors are tapping features congruent with an antisocial/disruptive lifestyle. Second, only the PCL:YV Factor 1 (Interpersonal) significantly correlated with the pre-treatment VRS:YSO Factor 2 (Sexual Deviancy), with weak and nonsignificant relationships observed between most of the adolescent psychopathy-related features and aspects of sexual

deviance (e.g., sexual compulsivity). Finally, the VRS:YSO Static component had moderate to large correlations with all PCL:YV components, including the total score (see Table 4.31).

Table 4.31

Correlations between the PCL:YV and the VRS:YSO Scale Components

Measures	PCL:YV F1: Interpersonal	PCL:YV F2: Affective	PCL:YV F3: Behavioural	PCL:YV F4: Antisocial	PCL:YV Total
VRS:YSO Pre-tx[a]					
Static	.38**	.38**	.39**	.50**	.56**
Dynamic	.55**	.45**	.61**	.60**	.70**
F1: Antisocial Tendencies	.41**	.59**	.76**	.71**	.80**
F2: Sexual Deviancy	.44**	.03	.06	.12	.19
Total	.55**	.48**	.60**	.62**	.73**
PCL:YV[b]					
F1: Interpersonal	—	.38**	.32**	.52**	.63**
F2: Affective		—	.49**	.52**	.77**
F3: Behavioural			—	.60**	.81**
F4: Antisocial				—	.85**
Total					—
VRS:YSO Post-tx[c]					
Static	.39**	.53**	.50**	.57**	.67**
Dynamic	.48**	.48**	.71**	.61**	.73**
F1: Antisocial Tendencies	.48**	.51**	.78**	.68**	.79**
F2: Sexual Deviancy	.44**	.32*	.38**	.29*	.43**
Total	.50**	.53**	.70**	.64**	.76**

Note. [a]N = 98. [b]N = 100. [c]N = 54. PCL:YV = Hare Psychopathy Checklist: Youth Version; VRS:YSO = Violence Risk Scale: Youth Sexual Offender Version; Tx = treatment; F1 = Factor 1; F2 = Factor 2; F3 = Factor 3; F4 = Factor 4.

**Pearson correlations are significant at the $p < .01$ level.

*Pearson correlations are significant at the $p < .05$ level.

4.3.2 Psychopathy-related personality features and criminal outcome.

Correlation coefficients.

As shown in Table 4.32, the PCL:YV Total (four-factor model), Factors 3 (Behavioural) and 4 (Antisocial) were significantly associated with violent (sexual and nonviolent) and general (any) recidivism (i.e., total number and binary recidivism). Factor 2 (Affective) was significantly correlated with total number of violent convictions and binary general (any) recidivism. Cooke and Michie's (2001) three-factor model (i.e., sum of 13 items loading on Interpersonal,

Affective, and Behavioral factors) total score was also significantly associated with criminal outcome (i.e., total number and binary recidivism), except sexual convictions. Lastly, the PCL:YV total (for both four- and three-factor models) and factor scores were not significantly associated with sexual recidivism using correlational methods.

Table 4.32

Correlations between the PCL:YV Scale Components and Recidivism

Measure	Total Sexual Convictions	Total Violent (S + NS) Convictions	Total General (Any) Convictions
PCL:YV[a]			
F1: Interpersonal	-.04	.14	.09
F2: Affective	.10	.20*	.19
F3: Behavioural	.07	.38**	.47**
F4: Antisocial	.11	.22*	.28**
Total (F4 model)	.11	.31**	.35**
Total (F3 model)[c]	.08	.33**	.37**

Measure	Y/N Sexual Convictions	Y/N Violent (S + NS) Convictions	Y/N General (Any) Convictions
PCL:YV[b]			
F1: Interpersonal	-.04	.05	.08
F2: Affective	.10	.18	.23*
F3: Behavioural	.07	.35**	.34**
F4: Antisocial	.11	.30**	.27**
Total (F4 model)	.11	.28**	.31**
Total (F3 model)[c]	.08	.30**	.31**

Note. N = 100. PCL:YV = Hare Psychopathy Checklist: Youth Version; F1 = Factor 1; F2 = Factor 2; F3 = Factor 3; F4 = Factor 4; Y/N = yes/no; S = sexual; NS = nonsexual.

[a]Pearson *r* correlations. [b]Point-biserial r_{pb} correlations. [c]Cooke and Michie's (2001) three-factor model (13 items).

*Correlations are significant at the $p < .05$ level.

**Correlations are significant at the $p < .01$ level.

Receiver operating characteristic (ROC) analyses.

For the present analyses, the predictor variable was the PCL: YV (i.e., Total and Factor scores) and the criterion variable was binary recidivism – sexual, violent (sexual and nonsexual), and general (any) reconvictions. Consistent with results from correlational analyses, Table 4.33 shows that the PCL:YV Total (for both four-and three-factor models), as well as Factors 3 (Behavioural) and 4 (Antisocial) significantly predicted violent and general recidivism. Factor 2 (Affective) was also a significant predictor of general recidivism. Neither the PCL:YV Total (for

both four- and three-factor models) nor factor scores significantly predicted sexual recidivism. AUC values signified moderate to large magnitudes of prediction (Rice & Harris, 2005).

Table 4.33

Area Under the ROC Curve (AUC) for the PCL:YV Scale Components

Measure	Sexual Recidivism			Violent (S + NS) Recidivism			General (Any) Recidivism		
	AUC (*SE*)		95% CI	AUC (*SE*)		95% CI	AUC (*SE*)		95% CI
PCL:YV									
F1: Interpersonal	.45	.10	.25-.66	.54	.07	.40-.68	.53	.06	.41-.65
F2: Affective	.60	.09	.42-.78	.62	.07	.49-.75	.64*	.06	.52-.75
F3: Behavioural	.58	.08	.42-.75	.73**	.06	.62-.83	.70**	.05	.60-.81
F4: Antisocial	.65	.08	.48-.81	.71**	.06	.60-.83	.67**	.06	.55-.78
Total (F4 model)	.61	.10	.42-.80	.69**	.06	.56-.81	.67**	.06	.55-.78
Total (F3 model)[a]	.59	.10	.40-.78	.69**	.06	.56-.81	.67**	.06	.56-.78

Note. N = 100. AUC = area under the curve; *SE* = standard of error; CI = confidence interval. PCL:YV = Hare Psychopathy Checklist: Youth Version; F1 = Factor 1; F2 = Factor 2; F3 = Factor 3; F4 = Factor 4; S = sexual; NS = nonsexual.

[a]Cooke and Michie's (2001) three-factor model (13 items).

*$p < .05$. **$p < .01$.

Psychopathy-related personality features and offender type.

Youth were divided into three groups based on the age of their victims from their index sexual offence (and historical sexual offences, if present): offenders with child only victims (*n* = 70, 72.9%), offenders with peer/adult only victims (*n* = 21, 21.9%), and offenders with child and peer/adult victims or mixed offenders (*n* = 5, 5.2%). No information pertaining victim age was available for four youth; therefore, they were excluded from analyses. Given the small number of mixed offenders, they were combined with offenders with peer/adult only victims to form a category labelled "offenders with any peer/adult victim." Factors 1 and 2 were combined to assess the Interpersonal/Affective dimension while Factors 3 and 4 were pooled to form the Behavioural/Antisocial dimension of psychopathy-related personality features, subsequently referred to as Factors 1 (I/A) and 2 (B/A), respectively (see Table 4.34).

Table 4.34

Psychopathy-Related Personality Features by Offender Type

Measure	Offenders with child only victims (n = 70)	Offenders with any peer/adult victim (n = 26)
Factor 1: Interpersonal		
M (*SD*)	1.67 (1.13)	1.54 (1.14)
Mdn	1.00	2.00
SE	0.14	0.22
Factor 2: Affective		
M (*SD*)	2.41 (1.73)	3.85 (2.01)
Mdn	3.00	4.00
SE	0.21	0.40
Factor 3: Behavioural		
M (*SD*)	3.19 (2.15)	4.69 (1.93)
Mdn	3.00	4.00
SE	0.26	0.38
Factor 4: Antisocial		
M (*SD*)	3.03 (2.00)	4.04 (2.36)
Mdn	2.50	4.00
SE	0.24	0.46
Four-factor Total		
M (*SD*)	11.77 (6.05)	15.39 (6.26)
Mdn	11.00	16.00
SE	0.72	1.23
F1 (I + A)	4.09 (2.47)	5.38 (2.43)
F2 (B + A)	6.21 (3.72)	8.73 (3.81)

Note. N = 96. PCL:YV = Hare Psychopathy Checklist: Youth Version. Four-factor model Total scores range from 0 to 40; F1 = Factor 1 (Interpersonal/Affective); F2 = Factor 2 (Behavioural/Antisocial); Mdn = median; *SE* = standard of error.

The PCL:YV four-factor model total score ranged from 2 to 28 across offender type. Assumptions of normality and homogeneity of variance were met despite unequal sample sizes. Total, Factor 1 (Interpersonal/Affective), and Factor 2 (Behavioural/Antisocial) scores were compared between the two offender groups via a series of independent-samples *t* test. Compared to offenders with child only victims, offenders with any peer/adult victim had significantly

higher PCL:YV Total, Factor 1 (I/A), and Factor 2 (B/A) scores (see Figure 4.7). Figure 4.8 also presents mean comparisons for PCL:YV individual components between offender groups.

Figure 4.7

Mean Scores for PCL:YV Major Components by Offender Type

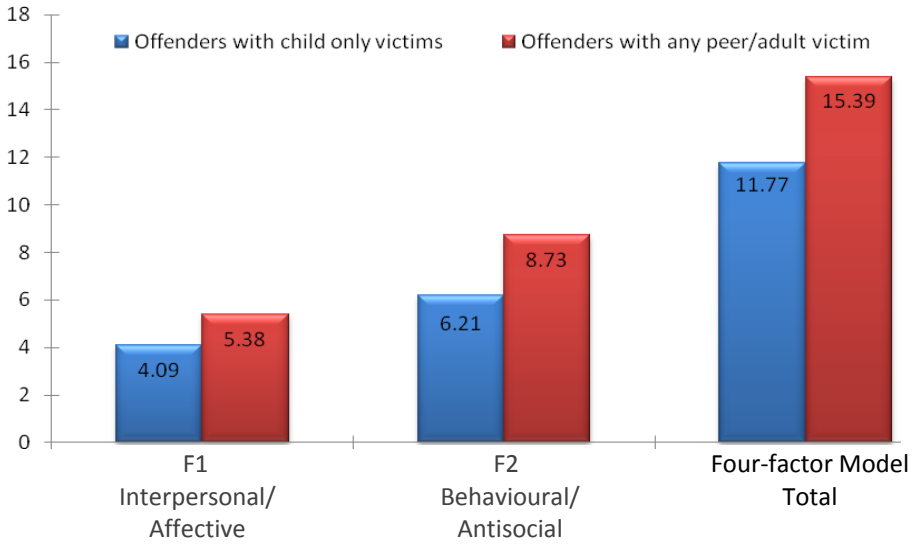
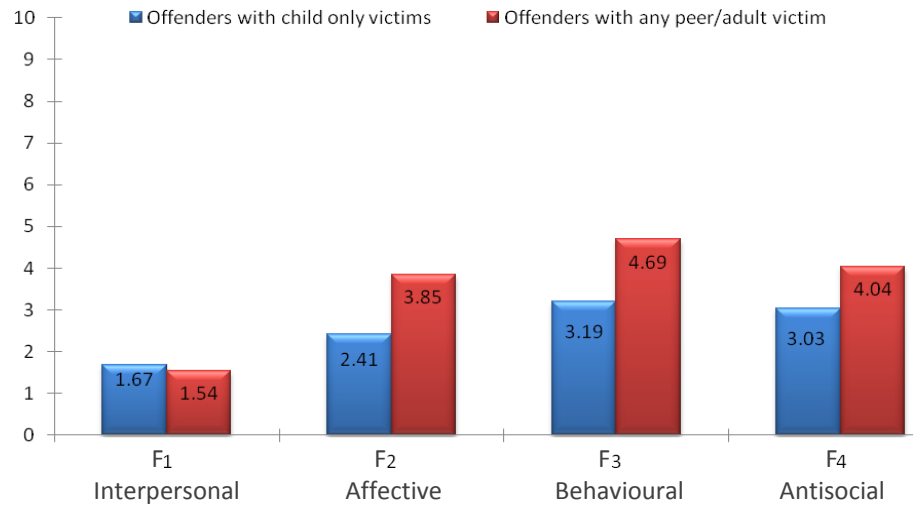


Figure 4.8

Mean Scores for PCL:YV Individual Components by Offender Type



Criminal outcome by offender type.

The recidivism rates for offenders with child only victims and offenders with any peer/adult victim were compared via chi-square analyses. Table 4.6 reveals that offenders with any peer/adult victim recidivated violently and generally at a proportionately higher rate than offenders with child only victims, χ^2 (1) = 7.59, $p < .01$, $\varphi = .28$ and χ^2 (1) = 4.65, $p < .05$, $\varphi = .22$, respectively. Sexual recidivism rates between offender groups were not compared using the chi-square test due to one cell having a small-expected frequency (Howell, 2002). Point-biserial r_{pb} correlation did not reveal a statistically significant association between offender type and sexual recidivism, $r_{pb} = .07$, $p = .494$.

Table 4.35

Cross-Tabulation for Criminal Outcome by Offender Type

Offender Type	Criminal Outcome (%)		
	Sexual	Violent (S + NS)	General (Any)
Offenders with child only victims (n = 70)	5 (7.1)	11 (15.7)	21 (30.0)
Offenders with any peer/adult victim (n = 26)	3 (11.5)	11 (42.3)	14 (53.8)

Note. N = 96. S = sexual; NS = nonsexual.

Correlation coefficients and receiver operating characteristic (ROC) analyses.

The predictive accuracy of the PCL:YV Total and Factor scores was examined among offenders with child only victims and offenders with any peer/adult victim. Focusing on offenders with child only victims, results from correlational and ROC analyses indicated that only Factor 3 (Behavioural) predicted general recidivism. On the other hand, Factor 4 (Antisocial), combined Factor 1 (Interpersonal/Affective) and Factor 2 (Behavioural/Antisocial), as well as total scores significantly correlated with and predicted violent and general recidivism among offenders with any peer/adult victim. Furthermore, Factor 3 (Behavioural) significantly predicted both criminal outcomes. Lastly, Factor 1 (Interpersonal) and Factor 2 (Affective) correlated with and predicted violent and general recidivism, respectively (see Table 4.36).

Table 4.36

Predictive Accuracy of the PCL:YV Among Offender Groups

PCL:YV Measure	Offenders with child only victims (n = 70)			Offenders with any peer/adult victim (n = 26)		
	r_{pb}	AUC	95% CI	r_{pb}	AUC	95% CI
			Sexual recidivism			
F1: Interpersonal	-.07	.37	[.08, .67]	.04	.54	[.30, .79]
F2: Affective	.09	.53	[.30, .77]	.09	.54	[.32, .76]
F3: Behavioural	.05	.58	[.39, .76]	.12	.59	[.27, .92]
F4: Antisocial	.05	.58	[.36, .79]	.20	.68	[.48, .88]
F1: I/A	.04	.48	[.23, .72]	.09	.58	[.35, .81]
F2: B/A	.06	.59	[.39, .78]	.19	.68	[.43, .93]
Total	.05	.53	[.28, .78]	.23	.67	[.47, .88]
			Violent (S + NS) recidivism			
F1: Interpersonal	-.12	.38	[.19, .58]	.42*	.74*	[.54, .94]
F2: Affective	.01	.48	[.30, .66]	.26	.64	[.42, .86]
F3: Behavioural	.22	.67	[.51, .82]	.39	.74*	[.55, .94]
F4: Antisocial	.09	.60	[.43, .77]	.66**	.88**	[.74, 1.0]
F1: I/A	-.05	.44	[.25, .62]	.42*	.75*	[.55, .94]
F2: B/A	.18	.64	[.49, .80]	.60**	.86**	[.71, 1.0]
Total	.08	.55	[.36, .74]	.59**	.82**	[.64, 1.0]
			General (Any) recidivism			
F1: Interpersonal	-.00	.46	[.31, .62]	.31	.67	[.46, .89]
F2: Affective	.06	.52	[.37, .67]	.44*	.73*	[.52, .94]
F3: Behavioural	.25*	.65*	[.50, .79]	.38	.74*	[.54, .94]
F4: Antisocial	.10	.55	[.40, .70]	.65**	.88**	[.72, 1.0]
F1: I/A	.05	.50	[.35, .65]	.51**	.79*	[.61, .97]
F2: B/A	.20	.61	[.46, .76]	.59**	.85**	[.68, 1.0]
Total	.13	.55	[.40, .70]	.64**	.85**	[.67, 1.0]

Note. N = 96. PCL:YV = Hare Psychopathy Checklist: Youth Version; F1 = Factor 1; F2 = Factor 2; F3 = Factor 3; F4 = Factor 4; Total (four-factor model); I/A = Interpersonal/Affective; B/A = Behavioural/Antisocial. r_{pb} = Point-biserial correlations; AUC = Area under the curve; CI = confidence interval; S = sexual; NS = nonsexual.
*p < .05. **p < .01.

Survival analyses.

Cox regression survival analyses were used to examine the unique contribution of offender type in the prediction of violent (sexual and nonsexual) and general (any) recidivism while adjusting for individual differences in length of follow-up time. As expected, offender type

significantly predicted both criminal outcomes (see Table 4.37). Kaplan-Meier survival analyses were used to estimate recidivism rates over time for youths in each offender group (see Figures 4.9 and 4.10). Pairwise comparisons demonstrated that offenders with any peer/adult victim (n = 26) had significantly higher and faster rates of violent, Log Rank χ^2 (1) = 9.050, p = .003 (M survival time = 11.10 vs. 15.35), and general, Log Rank χ^2 (1) = 7.109, p = .008 (M survival time = 13.57 vs. 9.51), recidivism than offenders with child only victims (n = 70).

Table 4.37

Cox Regression Survival Analysis: Prediction of Criminal Outcome

Variable	*B*	*SE*	Wald	*p*	e^B	95% CI	
						LL	*UL*
Violent (S + SN) recidivism							
Offender type	-1.212	.428	8.03	.005	0.298	0.129	0.688
General (Any) recidivism							
Offender type	-0.895	.347	6.66	.010	0.409	0.207	0.806

Note. N = 96. *SE* = standard of error; CI = confidence interval; *LL* = lower limit; *UL* = upper limit; S = sexual; NS = nonsexual.

Figure 4.9

Cumulative Proportion of Youth Reoffending Violently by Offender Type.

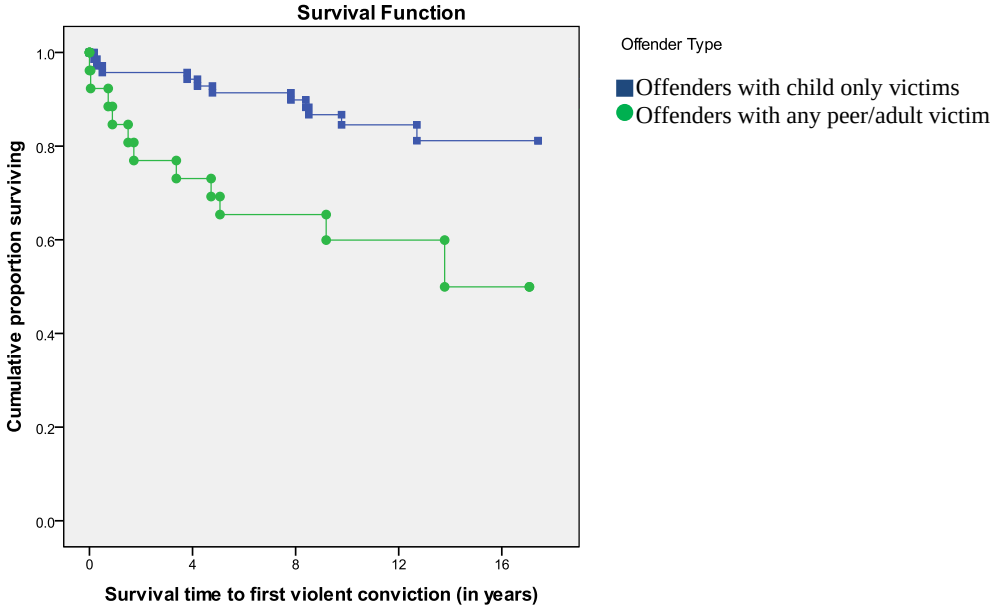
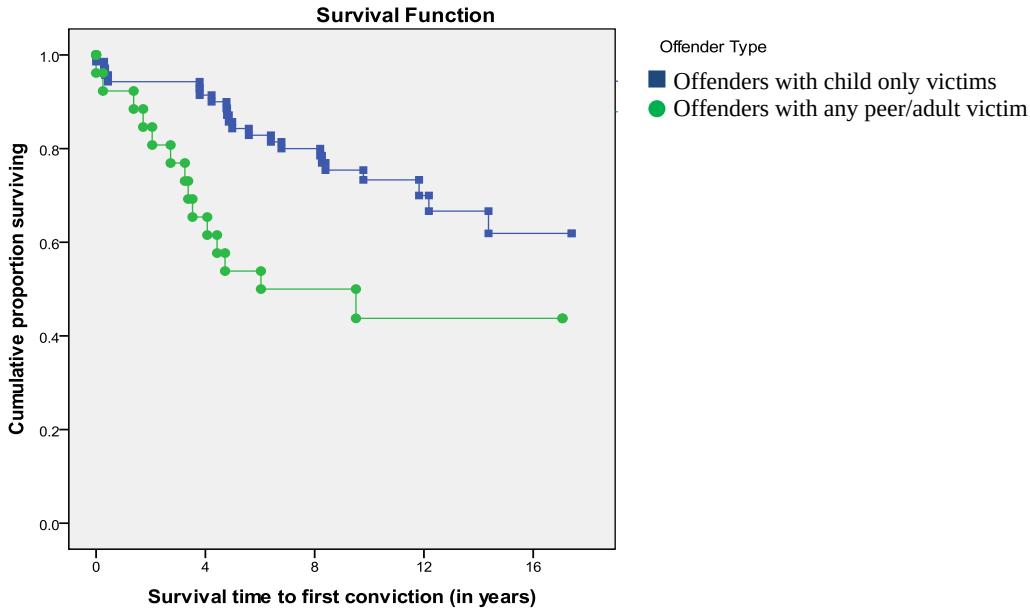


Figure 4.10

Cumulative Proportion of Youth Reoffending Generally by Offender Type.



Cox regression survival analyses: Incremental validity of PCL:YV components.

As seen in Tables 4.38 and 4.39, Cox regression survival analyses revealed that the combined PCL:YV Factor 2 (Behavioural/Antisocial) component added to the prediction of violent (sexual and nonsexual) and general (any) recidivism over and above the combined Factor 1 (Interpersonal/Affective) component (see Model A). For violent recidivism, only Factor 4 (Antisocial) added to the prediction of this outcome at a trend level (p = .057) after controlling for Factors 1 (Interpersonal), 2 (Affective), and 3 (Behavioural). A reverse pattern was seen for general recidivism; that is, only Factor 3 (Behavioural) added to the prediction of such outcome at a trend level (p = .062) after controlling for the remaining PCL:YV components. Lastly, neither Interpersonal (Factor 1) nor Affective (Factor 2) psychopathy-related personality features significantly predicted violent or general recidivism after individual Factors 3 (Behavioural) and 4 (Antisocial) were entered into the model.

Table 4.38

Cox Regression Survival Analysis: Incremental Validity of PCL:YV Components for the Prediction of Violent (Sexual and Nonsexual) Recidivism

PCL:YV Measure	*B*	*SE*	Wald	*p*	e^B	95% CI	
						LL	*UL*
Violent (S + NS) recidivism							
Model A:							
Block 1							
F1: I/A	.138	.080	2.94	.087	1.147	0.980	1.343
Block 2							
F1: I/A	-.110	.114	0.94	.331	0.896	0.717	1.119
F2: B/A	.235	.072	10.64	.001	1.265	1.098	1.457
Model B:							
Block 1							
F1: Interpersonal	-.121	.182	0.44	.507	0.886	0.620	1.266
F2: Affective	.037	.138	0.07	.787	1.038	0.792	1.361
F3: Behavioural	.344	.125	7.52	.006	1.410	1.103	1.803
Block 2							
F1: Interpersonal	-.393	.253	2.43	.119	0.675	0.411	1.107
F2: Affective	.020	.142	0.02	.888	1.020	0.772	1.348
F3: Behavioural	.207	.142	2.13	.144	1.230	0.932	1.625
F4: Antisocial	.276	.145	3.63	.057	1.318	0.992	1.751
Model C:							
Block 1							
F1: Interpersonal	-.472	.255	3.42	.065	0.624	0.378	1.029
F2: Affective	.112	.126	0.79	.374	1.118	0.874	1.431
F4: Antisocial	.387	.123	9.90	.002	1.472	1.157	1.874
Block 2							
F1: Interpersonal	-.393	.253	2.43	.119	0.675	0.411	1.107
F2: Affective	-.020	.142	0.20	.888	1.020	0.772	1.348
F4: Antisocial	.276	.145	3.63	.057	1.318	0.992	1.751
F3: Behavioural	.207	.142	2.13	.144	1.230	0.932	1.625

Note. N = 99. PCL:YV = Hare Psychopathy Checklist: Youth Version; For Model A, I/A = Interpersonal/Affective; B/H = Behavioural/Antisocial. For Model B, F1 = Factor 1: Interpersonal; F2 = Factor 2: Affective; F3 = Factor 3: Behavioural; F4 = Factor 4: Antisocial; S = sexual; NS = nonsexual. *SE* = standard of error; *LL* = lower limit; *UL* = upper limit.

Table 4.39

Cox Regression Survival Analysis: Incremental Validity of PCL:YV Components for the Prediction of General (Any) Recidivism

PCL:YV Measure	*B*	*SE*	Wald	*p*	e^B	95% CI	
						LL	*UL*
General (Any) recidivism							
Model A:							
Block 1							
F1: I/A	.142	.065	4.76	.029	1.152	1.015	1.309
Block 2							
F1: I/A	-.029	.088	0.11	.743	0.972	0.818	1.154
F2: B/A	.168	.055	9.31	.002	1.183	1.062	1.318
Model B:							
Block 1							
F1: Interpersonal	-.093	.148	0.39	.531	0.912	0.683	1.218
F2: Affective	.083	.106	0.60	.437	1.086	0.882	1.338
F3: Behavioural	.266	.095	7.88	.005	1.304	1.083	1.570
Block 2							
F1: Interpersonal	-.232	.191	1.49	.223	0.793	0.546	1.152
F2: Affective	.068	.108	0.39	.531	1.070	0.866	1.323
F3: Behavioural	.198	.106	3.49	.062	1.220	0.990	1.502
F4: Antisocial	.149	.111	1.79	.181	1.160	0.933	1.443
Model C:							
Block 1							
F1: Interpersonal	-.296	.194	2.33	.127	0.743	0.508	1.087
F2: Affective	.150	.098	2.35	.126	1.162	0.959	1.407
F4: Antisocial	.250	.096	6.78	.009	1.285	1.064	1.551
Block 2							
F1: Interpersonal	-.232	.191	1.49	.223	0.793	0.546	1.152
F2: Affective	.068	.108	0.39	.531	1.070	0.866	1.323
F4: Antisocial	.149	.111	1.79	.181	1.160	0.933	1.443
F3: Behavioural	.198	.106	3.49	.062	1.220	0.990	1.502

Note. N = 99. PCL:YV = Hare Psychopathy Checklist: Youth Version; For Model A, I/A = Interpersonal/Affective; B/H = Behavioural/Antisocial. For Model B, F1 = Factor 1: Interpersonal; F2 = Factor 2: Affective; F3 = Factor 3: Behavioural; F4 = Factor 4: Antisocial. *SE* = standard of error; *LL* = lower limit; *UL* = upper limit.

Survival analyses: Prediction of recidivism and survival rate distributions by PCL:YV group.

The PCL:YV Total score ranged from 2 to 28 for the overall sample (*M* = 12.87, *SD* = 6.52). Youth were categorized based on the degree of psychopathic traits present (Forth et al., 2003) using two methods: below and above the median (Mdn = 11.00), and 1 *SD* below and

above the mean (i.e., 0 to 7, 8 to 19, and 20 to 28). Of note, Gretton et al.'s (2001) guidelines to create groups were not used given that no youth scored ≥ 30, which comprises the high PCL:YV category.

Recidivism rates between the PCL:YV groups were examined via Kendall's Tau (τ) correlations for categorical variables to determine difference in risk level. Focusing on median-based groups, youth in the medium PCL:YV group reoffended violently and generally at a proportionately significant higher rate compared to youth in the low PCL:YV group, τ's = .25 and .24, respectively, $p < .05$. For *SD* derived groups, youth in the high PCL:YV group reoffended violently at a proportionately significant higher rate compared to youth in the medium and low PCL:YV groups, τ = .22, $p < .05$ (see Table 4.40). Point-biserial correlations were used to examine the association between sexual reoffending and PCL:YV grouping (i.e., median-based and *SD* derived groups) given that two cells had a small-expected frequency, which prevented the use of Kendall's Tau (τ) correlations. Overall, there was no statistically significant association between PCL:YV grouping and sexual reoffending (see Table 4.40).

Table 4.40

Cross-Tabulation for Criminal Outcome by PCL:YV Group

	Criminal Outcome (%)		
PCL:YV Group	Sexual	Violent (S + NS)	General (Any)
Below/Above Mdn score:			
Low (*n* = 51)	3 (5.9)	7 (13.7)	13 (25.5)
Medium (*n* = 49)	5 (10.2)	17 (34.7)	24 (49.0)
1 *SD* Below/Above the mean:			
Low (*n* = 24)	1 (4.2)	4 (16.7)	8 (33.3)
Medium (*n* = 55)	4 (7.3)	10 (18.2)	16 (29.1)
High (*n* = 21)	3 (14.3)	10 (47.6)	13 (61.9)

Note. N = 100. PCL:YV = Hare Psychopathy Checklist: Youth Version; Mdn = Median; S = sexual; NS = nonsexual.

Cox regression survival analyses showed that PCL:YV grouping (Mdn and *SD* based) significantly predicted violent (sexual and nonsexual) and general recidivism (see Table 4.41). Kaplan-Meier survival analyses revealed that higher PCL: YV scorers had significantly higher and faster rates of violent, Mdn-based groups: Log Rank χ^2 (1) = 7.358, $p = .007$, *M* survival time = 12.39 (M) vs. 15.47 (L) and *SD*-based groups: Log Rank χ^2 (1) = 9.265, $p = .010$, *M* survival

time = 10.60 (H) vs. 14.53 (M) vs. 15.08 (L), and general, Mdn-based groups: Log Rank χ^2 (1) = 7.843, p = .005, *M* survival time = 10.50 (M) vs. 14.12 (L) and *SD*-based grouping: Log Rank χ^2 (1) = 8.901, p = .012, *M* survival time = 9.07 (H) vs. 13.17 (M) vs. 12.76 (L), reconvictions than lower PCL:YV scorers. Figures 4.11 and 4.12 present the survival distributions for the different levels of PCL:YV groups (*SD*-based).

Table 4.41

Cox Regression Survival Analysis: Prediction of Recidivism and PCL:YV Group

Variable	*B*	*SE*	Wald	*p*	e^B	95% CI	
						LL	*UL*
Violent (S + NS) recidivism							
PCL:YV grouping (Mdn based)	-1.184	.460	6.62	.010	0.306	0.124	0.754
PCL:YV grouping (*SD* derived)	0.809	.329	6.06	.014	2.245	1.179	4.276
General (Any) recidivism							
PCL:YV grouping (Mdn based)	-0.951	.352	7.31	.007	0.386	0.194	0.770
PCL:YV grouping (*SD* derived)	0.568	.262	4.68	.031	1.764	1.055	2.950

Note. N = 99. Mdn = Median; S = sexual; NS = nonsexual; *SE* = standard of error; CI = confidence interval; *LL* = lower limit; *UL* = upper limit.

Figure 4.11

Cumulative Proportion of Youth Reoffending Violently by PCL:YV Group.

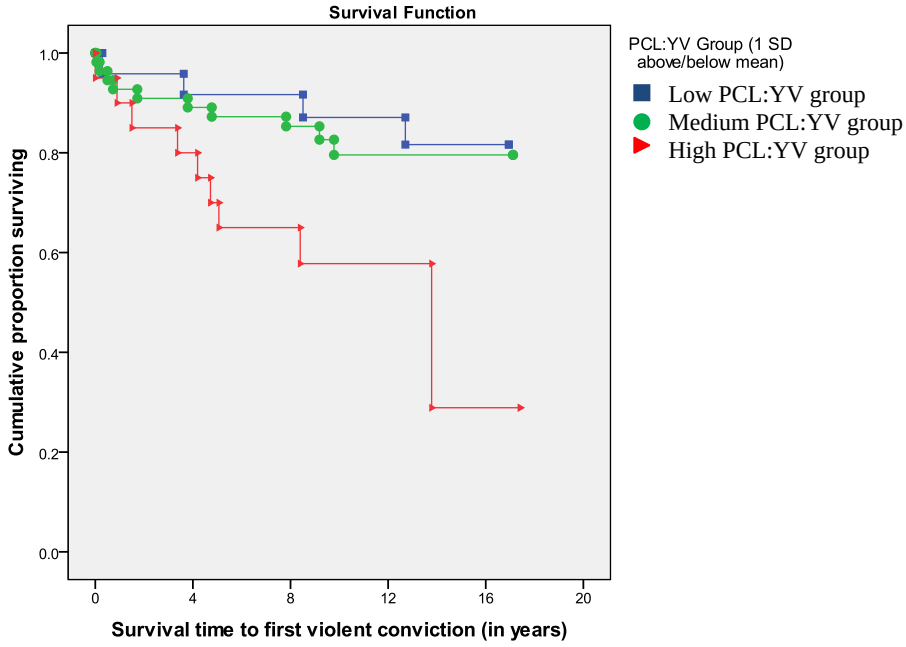
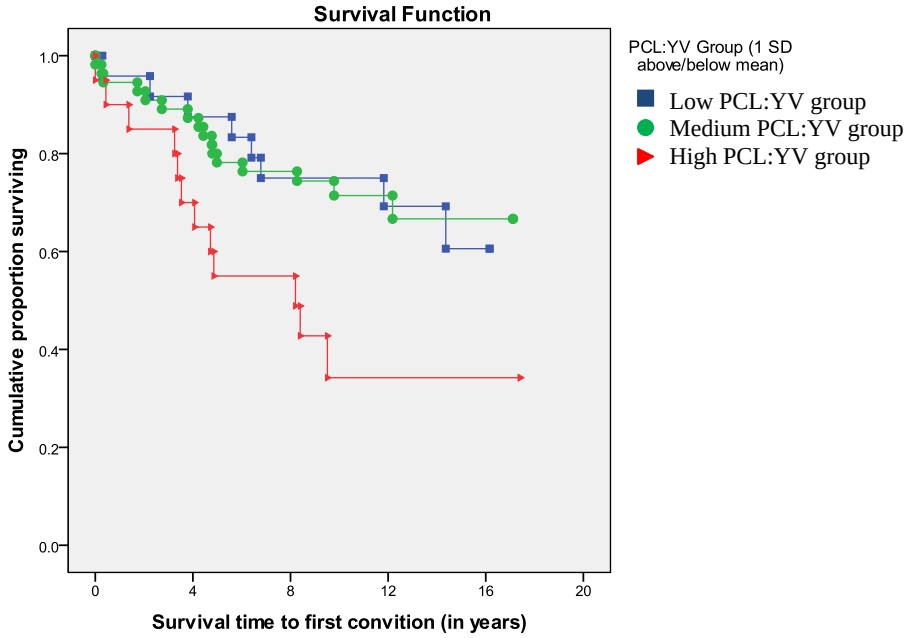


Figure 4.12

Cumulative Proportion of Youth Reoffending Generally by PCL:YV Group.



4.3.3 Psychopathy-related personality features and treatment outcome

Treatment outcome.

Overall, 55 (55.0%) and 52 (52.0%) youth participated in individual and group treatment, respectively, targeting sexual offending behaviour (see Method section for a description of the Adolescent Sex Offender Treatment Program). Treatment information was missing for four youth. Out of a sample of 96, 46.9% of youth received both forms of treatment while 36.5% did not receive either mode of intervention (i.e., they were assessed only). Out of 62 youth who participated in individual and/or group treatment, 36 (58.0%) successfully completed full treatment services, 13 (21.0%) partial treatment services (e.g., one of two groups), and 13 (21.0%) did not successfully complete any juvenile sex offender treatment services. Reasons for not completing treatment services successfully included missing individual and/or group sessions, poor effort in treatment, and ceasing to attend due to probation ending. The average length of treatment was 10.61 months (*SD* = 6.35), ranging from 0.7 to 26.20 months; this information was available for 49 out of the 62 youth who attended treatment services. Table 4.42 shows that treatment completers (i.e., youth who successfully completed full treatment services) and non-completers (i.e., youth who successfully completed none and partial treatment services) were not significantly different on several demographic, criminal history, and individual functioning variables, with the exception of length of treatment.

Table 4.42

Comparison between Treatment Completers (Full) and Non-Completers (None and Partial) on Demographic, Criminal History, Individual Functioning, and Treatment-Related Variables

	Completers (n = 36)			Non-completers (n = 26)				
Variable	n	M (SD)	%	n	M (SD)	%	χ^2 or t	ϕ or d
Demographic:								
Aboriginal ancestry	26	-	30.8	17	-	35.3	0.10	-
Criminal History:								
Age at first conviction	27	15.69 (1.61)	-	21	15.05 (1.45)	-	-1.38	-
Prior adjudicated sexual offences	34	0.00 (0.00)	-	-	0.04 (0.19)	-	1.00	-
Prior adjudicated NS violent offences	34	0.18 (0.76)	-	-	0.15 (0.61)	-	-0.12	-
Prior adjudicated NS nonviolent offences	34	0.50 (1.85)	-	-	0.23 (0.71)	-	-0.70	-
Prior adjudicated offences	34	0.68 (2.49)	-	-	0.42 (1.24)	-	-0.47	-
Index Offence:								
Age at index	31	14.16 (2.02)	-	24	13.80 (1.45)	-	-0.72	-
Sentence length	33	24.07 (5.86)	-	-	24.69 (4.44)	-	0.46	-
Individual Functioning:								
Grade level at time of ax	-	9.53 (1.05)	-	23	9.17 (1.44)	-	-1.09	-
Highest grade achieved prior to ax	34	8.53 (1.08)	-	23	8.17 (1.43)	-	-1.07	-
Attending school at time of ax	-	-	84.6	21	-	85.7	0.01	-
Stable living situation at time of ax	-	-	47.4	23	-	43.5	0.04	-
Treatment-Related:								
Treatment length	30	12.77 (5.97)	-	19	7.20 (5.48)	-	-3.28**	0.48

Note. Sample size (n) was provided when information was unavailable for the full sample. Effect size (φ or d) was only provided for statistically significant findings. Ax = assessment; NS = nonsexual.
** $p < .01$.

Treatment and criminal outcome.

Chi-square analyses were used to examine differences in criminal outcomes between the treatment groups (i.e., no/partial vs. full treatment services). Overall, there were no significant differences on the proportion of youth in each group who reoffended violently (sexual and nonsexual) and generally (any). Of note, chi-square analysis could not used to compare statistically the patterns of sexual reoffending between groups due to two cells having a small-expected frequency, which is a requirement for using the chi-square test (Howell, 2002).

Alternatively, a likelihood ratio test revealed a nonsignicant association between successful treatment completion and sexual reoffending (see Table 4.43).

Table 4.43

Comparison between Treatment Completion Groups on Criminal Outcome

	Criminal Outcome (%)		
Tx Completion	Sexual	Violent (S + NS)	General (Any)
No (*n* = 13)	1 (7.7)	2 (15.4)	6 (46.2)
Partial (*n* = 13)	1 (7.7)	5 (38.5)	5 (38.5)
Full (*n* = 36)	2 (5.6)	8 (22.2)	9 (25.0)
	Criminal Outcome (%)		
Tx Completion	Sexual	Violent (S + NS)	General (Any)
No/Partial (*n* = 26)	2 (7.7)	7 (26.9)	11 (42.3)
Full (*n* = 36)	2 (5.6)	8 (22.2)	9 (25.0)

Note. Tx =treatment; S = sexual; NS = nonsexual.

Psychopathy-related personality features, treatment, and criminal outcome.

The relationship between psychopathy-related personality features, treatment, and criminal outcome were examined via independent samples *t* tests, point-biserial (r_{pb}) correlation coefficient, chi-square, and survival analyses. First, as seen in Table 4.44, independent samples *t* tests revealed that treatment non-completers had significantly higher PCL:YV Factor 1 (Interpersonal), Factor 3 (Behavioural), Factor 4 (Antisocial), combined Factors 1 (Interpersonal/Affective) and 2 (Behavioural/Antisocial), as well as total scores compared to treatment completers.

Second, point-biserial r_{pb} correlation coefficient was used to examine the relationship between psychopathy-related personality features and successful treatment completion. Table 4.45 shows that PCL:YV Factors 1 (Interpersonal), 3 (Behavioural), and 4 (Antisocial), as well as total scores were negatively and significantly associated with successful treatment completion (binary).

Third, results from chi-square analyses revealed that youth with PCL:YV scores Above the Median were less likely to complete treatment successfully compared to those with PCL:YV scores Below the Median, χ^2 (1) = 6.01, p = .014, φ = -.31. There were no statistically significant differences in the treatment completion rates of the three PCL:YV groups (Low, Medium, and High, χ^2 (2) = 5.14, p = .076; see Table 4.46).

In light of the above results, youth were categorized into four groups based on their PCL:YV Total score (Below/Above Mdn) and binary treatment outcome: (a) Below Mdn PCL:YV-treatment completer, (b) Below Mdn PCL:YV-treatment non-completer, (c) Above Mdn PCL:YV-treatment completer, and (d) Above Mdn PCL:YV-treatment non-completer. A series of Spearman-Brown correlations revealed a statically significant association between the PCL:YV grouping and treatment status variable and general (any) offending. An examination of Table 4.47 indicates that youth in the Above Median PCL:YV group (regardless of treatment status) appeared to be at greater risk for general (any) reoffending (r_s = .316, p = .012). No other statistically significant findings were found.

Table 4.44

Comparison between Treatment Completers (Full) and Non-Completers (None and Partial) on Psychopathy-Related Personality Features

PCL:YV	Completers (n = 36) M (SD)	Non-Completers (n = 26) M (SD)	Total (N = 62) M (SD)	t
F1: Interpersonal	1.47 (0.91)	2.23 (1.37)	1.85 (1.14)	2.63*
F2: Affective	2.39 (1.73)	3.08 (1.92)	2.74 (1.82)	1.48
Factor 1: I/A	3.86 (2.26)	5.31 (2.85)	4.58 (2.55)	2.23*
F3: Behavioural	2.94 (1.96)	4.62 (2.16)	3.78 (2.06)	3.18**
F4: Antisocial	3.06 (2.11)	4.31 (2.36)	3.68 (2.24)	2.19*
Factor 2: B/A	6.00 (3.56)	8.92 (4.03)	7.46 (3.80)	3.01**
Total	11.38 (5.48)	15.96 (6.90)	13.67 (6.19)	2.91**

Note. PCL:YV = Hare Psychopathy Checklist: Youth Version; I/A = Interpersonal/Affective (Factor 1); B/A = Behavioural/Antisocial (Factor 2).
*p < .05. **p < .01.

Table 4.45

Correlations between the PCL:YV and Treatment Completion

Tx status	PCL:YV F1: Interpersonal	PCL:YV F2: Affective	PCL:YV F3: Behavioural	PCL:YV F4: Antisocial	PCL:YV Total
Successful tx completion (Y/N)	-.32*	-.19	-.38**	-.27*	-.35**

Note. N = 62. PCL:YV = Hare Psychopathy Checklist: Youth Version; VRS:YSO = Violence Risk Scale: Youth Sexual Offender Version; F1 = Factor 1; F2 = Factor 2; F3 = Factor 3; F4 = Factor 4; Tx = treatment; Y/N = yes/no.

Table 4.46

Relationship between Psychopathy-Related Personality Features and Treatment Completion

	PCL:YV Group (%)		
Tx Completion	Low (*n* = 13)	Medium (*n* = 36)	High (*n* = 13)
No/Partial (*n* = 26)	4 (30.8)	13 (36.1)	9 (41.9)
Full (*n* = 36)	9 (69.2)	23 (63.9)	4 (30.8)

	PCL:YV Group (%)	
Tx Completion	Below Mdn (*n* = 28)	Above Mdn (*n* = 34)
No/Partial (*n* = 26)	7 (25.0)	19 (55.9)
Full (*n* = 36)	21 (75.0)	15 (44.1)

Note. N = 62. PCL:YV = Hare Psychopathy Checklist: Youth Version; Mdn = Median; Tx = treatment.

Table 4.47

Cross-Tabulation for Criminal Outcome by PCL:YV Group and Treatment Completion

	Criminal Outcome (%)		
Group	Sexual	Violent (S + NS)	General (Any)
Below Mdn PCL:YV-Tx completer (*n* = 21)	0 (0.0)	2 (9.5)	3 (14.3)
Below Mdn PCL:YV-Tx non-completer (*n* = 8)	1 (12.5)	2 (25.0)	2 (25.0)
Above Mdn PCL:YV-Tx completer (*n* = 15)	2 (13.3)	6 (40.0)	6 (40.0)
Above Mdn PCL:YV-Tx non-completer (*n* = 18)	1 (5.6)	5 (27.8)	9 (50.0)

Note. N = 62. PCL:YV = Hare Psychopathy Checklist: Youth Version; Mdn = Median; Tx = treatment; S = sexual; NS = nonsexual.

Lastly, Cox regression survival analyses were used to examine whether PCL:YV group (Below/Above Median score) and/or binary treatment status best predicted violent (sexual and nonsexual) and general (any) recidivism. As seen in Table 4.48, neither variable (nor their interaction) significantly predicted criminal outcome.

Table 4.48

Cox Regression Survival Analysis: PCL:YV and Treatment Status for the Prediction of Violent and General Recidivism

Variable	*B*	*SE*	Wald	*p*	e^B	95% CI	
						LL	*UL*
Violent (S + SN) recidivism							
PCL:YV group	1.092	1.084	1.01	.314	2.981	0.356	24.970
Tx status	-1.217	2.521	0.23	.629	0.296	0.002	41.415
PCL:YV x Tx	0.807	1.358	0.35	.552	2.242	0.157	32.092
General (Any) recidivism							
PCL:YV group	1.647	1.055	2.44	.118	5.191	0.657	41.016
Tx status	0.152	2.368	0.00	.949	1.164	0.011	120.795
PCL:YV x Tx	-0.150	1.267	0.01	.906	0.860	0.072	10.304

Note. N = 62. *SE* = standard of error; *LL* = lower limit; *UL* = upper limit; PCL:YV = Hare Psychopathy Checklist: Youth Version; PCL:YV Group based on Below/Above Median score; Tx = treatment – successfully completed partial/full treatment services (completer) or non-completer ; S = sexual; NS = nonsexual.

Psychopathy-related personality features and VRS:YSO therapeutic change.

Pearson *r* correlation coefficient was used to examine the relationship between the PCL:YV (factor and total scores) and the VRS:YSO therapeutic change score. Table 4.49 shows that psychopathy-related personality features had small and nonsignificant relationship with therapeutic progress.

Table 4.49

Correlations between the PCL:YV and the VRS:YSO Therapeutic Change

Measures	PCL:YV F1: Interpersonal	PCL:YV F2: Affective	PCL:YV F3: Behavioural	PCL:YV F4: Antisocial	PCL:YV Total
VRS:YSO Therapeutic Change	.18	.04	-.07	-.07	.03

Note. N = 53. PCL:YV = Hare Psychopathy Checklist: Youth Version; VRS:YSO = Violence Risk Scale: Youth Sexual Offender Version; F1 = Factor 1; F2 = Factor 2; F3 = Factor 3; F4 = Factor 4.

Moreover, Cox regression survival analysis was used to examine the ability of the VRS:YSO therapeutic change score to predict sexual, violent (sexual and nonsexual), and general (any) recidivism after controlling for PCL:YV Total scores. Such analysis determines to what extent risk-change is associated with reductions in recidivism after controlling for psychopathic-related personality features, which is also a strong proxy for risk. As seen in Table

4.50, the VRS:YSO therapeutic change score did not significantly predict any criminal outcome after controlling for the PCL:YV Total score, although the findings were in the expected direction; that is, change (e^B magnitude) was associated with non-significant reductions in recidivism, although the relationship appeared to be stronger for higher base rate outcomes. The PCL:YV Total score uniquely and significantly predicted violent (sexual and nonsexual) and general (any) recidivism.

Table 4.50

Cox Regression Survival Analysis: PCL:YV and Therapeutic Change for the Prediction of Recidivism

Variable	*B*	*SE*	Wald	*p*	e^B	95% CI	
						LL	*UL*
Sexual recidivism							
Block 1							
PCL:YV Total	0.101	0.083	1.51	.219	1.107	0.941	1.301
Block 2							
PCL:YV Total	0.101	0.083	1.51	.219	1.107	0.941	1.301
Therapeutic Change	-0.025	0.136	0.03	.853	0.975	0.748	1.272
Violent (S + NS) recidivism							
Block 1							
PCL:YV Total	0.107	0.043	6.25	.012	1.113	1.023	1.211
Block 2							
PCL:YV Total	0.107	0.043	6.34	.012	1.113	1.024	1.210
Therapeutic Change	-0.078	0.072	1.18	.277	0.925	0.804	1.065
General (Any) recidivism							
Block 1							
PCL:YV Total	0.138	0.041	11.13	.001	1.148	1.058	1.244
Block 2							
PCL:YV Total	0.140	0.041	11.52	.001	1.151	1.061	1.248
Therapeutic Change	-0.092	0.059	2.41	.121	0.912	0.812	1.025

Note. N = 53. *SE* = standard of error; *LL* = lower limit; *UL* = upper limit; PCL:YV = Hare Psychopathy Checklist: Youth Version; S = sexual; NS = nonsexual.

Chapter 5.

Discussion

5.1 Phase I Discussion: Development and Initial Psychometric Examination of the Violence Risk Scale: Youth Sexual Offender Version (VRS:YSO)

Phase I of the present research sought to contribute to the area of violence risk assessment with youths who have sexually offended via the development of a young offender version of the Violence Risk Scale–Sexual Offender Version (VRS–SO; Wong et al., 2003), and its initial psychometric examination. The resulting risk assessment measure, the Violence Risk Scale: Youth Sexual Offender version (VRS:YSO), captures risk variables that are empirically and/or theoretically associated with an increased risk for sexual recidivism among sexually offending youth. There was a high-degree of consistency between the VRS:YSO Draft Version 1 and its adult version, the VRS–SO, on its basic format, structure, and theoretical rationale.

A comparison between the literature on risk factors for sexual recidivism among sexually offending youth and the risk factors included in the VRS:YSO Draft Version 1 indicate that the revision process was empirically and theoretically informed (see Risk Factors for Sexual Recidivism section, pp. 26-49). Specifically, eight *static* and *dynamic risk variables* have been classified as *empirically supported* risk factors (e.g., prior sex offences, sexually deviant lifestyle pattern, and cognitive distortions). Two risk factors were deemed *promising* (i.e., number and gender of victims and callous and unemotional traits) and three were considered *possible* risk factors (i.e., sexual compulsivity, return to high-risk situations, and impulsivity) in the present literature review. One risk factor (i.e., interpersonal aggression) has been categorized as *other potential* risk factor. The remaining three *static risk variables* in the VRS:YSO have been identified as risk factors for criminal behaviour and violence among youth offenders (e.g., early onset of serious antisocial behaviour). Lastly, the remaining six *dynamic risk variables* have been identified as relevant risk factors for violence among youth offenders and/or sexually offending adults (e.g., noncompliance with community supervision, community support, and insight). Of note, some variables reviewed in the literature (e.g., child abuse history, academic functioning, and mental health symptomatology, see Characteristics of Youth Who Have Sexually Offended section, pp. 8-17) were not included in the first draft of the VRS:YSO. Their exclusion was due to negligible or no evidence that these variables are predictors of sexual (and/or nonsexual) recidivism risk and/or limited evidence that these variables significantly

discriminate between sexually and nonsexually offending youths. Altogether, the VRS:YSO Draft Version 1 includes risk factors that have been empirically and/or theoretically associated with sexual (and nonsexual) violence among youth.

Although many *static* and *dynamic risk variables* for youth paralleled those identified among adult men who have sexually offended (Worling, 2010), some professionals argue that their influence may vary across developmental stages and that there are developmental differences in risk factors (Worling & Långström, 2006; Worling et al., 2011). Keeping with this knowledge, three additional *dynamic risk variables* focusing on familial disruption and community disorganization were included at the end of the scale to inform future revisions of the VRS:YSO (e.g., poor parent-child interaction).

The VRS:YSO fits within the third-generation of risk assessment; it is empirically based and theoretically informed (e.g., the Psychology of Criminal Conduct or PCC, Transtheoretical Model or TTM), and includes both *static* and *dynamic* risk factors (Andrews, Bonta, & Wormith, 2006). The instrument developers made the revisions leading to the VRS:YSO, which was completed prior to data collection. The revision process was informed by the literature review in Phase I, the item content on other risk assessment measures and the parent measure (as it was the revision of an established instrument). These elements guided decisions about which risk variables may be added, retained, discarded, or modified from the parent measure.

The VRS:YSO is a developmentally appropriate risk assessment measure designed to assess risk for sexual violence pre-and-post-treatment, guide treatment planning via the identification of treatment targets (or criminogenic needs), assess readiness to change (responsivity factor) via a systematic mechanism (TTM), and evaluate whether positive changes in risk are linked to reductions in risk for sexual violence. The VRS:YSO is considered "developmentally appropriate" because the revision process was guided by the sexually (and nonsexually) offending literature (see above), the developmental literature was consulted to better understand normative developmental processes adolescents experience and possible disruptions to those processes (e.g., sexual behaviours), as well as item label and content (e.g., callous-unemotional traits). Altogether, the VRS:YSO bridges the areas of assessment and treatment of sexually offending youth and places the prevention of future violence as a paramount goal (Hart, 2001; Viljoen, Mordell, & Beneteau, 2012), which is consistent with a

prevention as opposed to a prediction-based paradigm of violence risk assessment (Douglas & Kropp, 2002).

The VRS:YSO is a 23-item rating scale (six *static risk variables* and 17 *dynamic risk variables*). It was rated on a sample of 99 male youths who had received outpatient sex offender services (assessment and/or treatment) from the Saskatoon Health Region, Child and Youth Services (CYS)–Young Offender Program (YOP). Items on the VRS:YSO were rated from youth files. Initial psychometric examination included reliability, item properties, and scale structure.

5.1.1 Reliability and item properties for the VRS:YSO.

Inter-rater reliability analyses for the pre-and-post treatment VRS:YSO scores ranged between good and excellent (ICC_1 Consistency = .64-.83). These results provided preliminary evidence for the ability of two independent raters to score test items that require varying degrees of judgement similarly (Sapp, 2006), particularly for *dynamic risk variables*.

The internal consistency of the pre-treatment VRS:YSO combined Static-Dynamic Total was acceptable ($\alpha = 82$), supporting the homogeneity of test items. However, there was a difference in the alpha values for the Static and Dynamic components of the scale (α's = .39 vs. .79, respectively), indicating a weak internal consistency for the Static component. Of note, alpha has limitations as a measure of reliability. For instance, a low alpha can simply reflect item homogeneity, as each item represents a different risk construct (e.g., onset and nature of antisocial behaviour, family instability, and victim characteristics) and there may be minimal reasons to expect these items to be highly intercorrelated. Most importantly, a low alpha does not equate to weak psychometric properties of a measure. For example, some risk assessment measures with very low alphas (e.g., Static-99) have good predictive accuracy thus are considered sound measures for assessing recidivism risk in sexually offending adults.

There is also research base supporting the association of three of the *static risk variables* with sexual violence, namely sexual offending history and victim characteristics (Långström & Grann, 2000; McCann & Lussier, 2008; Miner, 2002; Rasmussen, 1999; Worling & Långström, 2003, 2006). The remaining three items (i.e., early onset of serious antisocial behaviours, criminality, and instability of family upbringing) are considered risk factors for future offending among sexually offending and violent youths (Långström & Grann, 2000; Lipsey & Derzon, 1998; Seto & Laumière, 2010, Worling & Curwen, 2000). These lines of research further

supports the retention of *static risk variables* despite weaken internal consistency of the Static component.

Item-total correlations were calculated for the 17-item VRS:YSO Dynamic component. Eleven *dynamic risk variables* showed moderate to large correlations (Pearson $r \geq .30$ to .62) with the entire scale, suggesting that these variables measure a similar construct as the rest of the scale. The remaining six items had negligible (Pearson *r*'s < .10) or small (Pearson *r*'s =. 17 and .24) correlations with the entire scale, indicating that they measure a different construct. There are various reasons for items to have negligible item-total correlations (Pearson *r*'s < .10). For instance, the item may be poor and measuring something different from the rest of the scale or there could be a range restriction (e.g., most youths in the sample get very low or very high scores on the item).

Moreover, some professionals may argue that one of the reasons for the above *dynamic risk variables* (e.g., substance abuse, offence planning) to have small or negligible item-total correlations may be due to these variables being static (i.e., based on historical information) as opposed to dynamic in nature. Although historical information can be used to rate few VRS:YSO *dynamic risk variables* (as it is done with the VRS–SO), recent information is weighted more heavily and given more credibility than historical information. Moreover, the dichotonomy between *static* and *dynamic risk variables* is artificially created; that is static and dynamic exists on a continuum, and some variables are more dynamic compared to others (e.g., cognitive distortions vs. deviant sexual interests). In addition, some variables are quite stable and slow to change. A key issue for some *variables* is whether these are linked to sexual violence. If the variable is linked to sexual violence, then it is arguably a candidate for treatment. For example, an individual may have engaged in considerable grooming behaviors with previous victims, including planning, pre-offence masturbation, and a gradation of behaviors that escalate into a sexual offense. However, if all of the behaviors, thoughts, and feelings encapsulated within the planning activities have not been addressed, then it is a treatment issue (and arguably a dynamic risk entity) that has been overlooked. The same consideration would apply to any other previous offense behaviors that are embodied within the risk constructs measured by the VRS:YSO (e.g., substance abuse and emotional dysregulation).

Equally important, four out of the six *dynamic risk variables* (i.e., intimacy skills deficits, deviant sexual interests, return to high-risk situations, and offence planning) have empirical

evidence that directly or indirectly link them to sexual recidivism risk. In addition, these items appear to measure the construct of "risk for sexual violence" at a glance (i.e., face validity). The remaining two items (i.e., emotional control and substance abuse) are more closely affiliated to the constructs of violence and/or general offending among young offenders. It is noteworthy that the removal of any of the six items led to no or minimal improvement to the overall consistency of the scale. As this is a preliminary examination of the VRS:YSO, the purpose is to examine the item properties of the measure to inform possible refinements of the measure in the future, which may include adding or removing items. Altogether, there was no evidence supporting the exclusion of these six items from the scale at this point.

The item-total correlations for the 19-item VRS:YSO pre-treatment Dynamic component (included two experimental risk items) provided similar results to those of the 17-item Dynamic component. Items 18 (poor parent-child interaction) and 19 (family stress) showed large and moderate correlations with the entire scale, respectively. Moreover, their inclusion to the VRS:YSO pre-treatment Dynamic component had minimal impact on its internal consistency (α = .80), suggesting that the 19 items measure a unitary construct (i.e., sexual violence risk). There is also some empirical evidence supporting the link between poor parent-child interaction, family stress, and recidivism risk (Lipsey & Derzon, 1998; Seto & Lalumière, 2010; Worling & Curwen, 2000). The experimental risk items were coded for a random sample (66 out of 99 cases) of cases thus future examinations of the VRS:YSO should attempt to code both risk items on a larger sample. Overall, the present results, albeit preliminary, support the inclusion of poor parent-child interaction and family stress (to a lesser extent) on future revisions of the scale.

5.1.2 Factor structure.

Results from an Exploratory Factor Analysis (EFA) on the 17-item pre-treatment Dynamic component of the VRS:YSO suggested that an orthogonal two-factor solution provided the most parsimonious and interpretable solution. The final solution accounted for 36.5% of the total variance. Fourteen *dynamic risk variables* loaded equal or above the item-factor loading criterion of $\geq$ .45, with few or no cross-loadings (one *dynamic risk variable* loaded above the minimum criterion of .32). Rotated Factors 1 and 2 accounted for 20.9% and 15.6%, respectively, of the total variance and showed good internal consistency (α's = .85 and .80) supporting the homogeneity of test items. The extracted factors were labelled Antisocial Tendencies (Factor 1) and Sexual Deviancy (Factor 2) given items composing each factor. These

identified risk dimensions are consistent with the underlying factor structure of the VRS:SO (Olver et al., 2007) and research on risk factors for sexual recidivism among adults and youth who have sexually offended (e.g., Hanson & Morton-Bourgon, 2005; McCann & Lussier, 2008; Seto & Lalumière, 2010; Pullman & Seto, 2012). Furthermore, these risk dimensions are captured by other specialized adolescent risk assessment measures such as the J-SOAP-II and ERASOR.

Consistent with the nature of *dynamic risk*, the extracted factors reflect treatment targets (or criminogenic needs) that influence a youth's risk for sexual (and/or nonsexual) recidivism risk. Factor 1 (Antisocial Tendencies) was composed of nine items reflecting antisocial traits and lifestyle. Youth scoring high on this factor would tend to present with a pattern of defiant and impulsive behaviour, interpersonal aggression, emotional deficits (i.e., disregard for the feelings of others and shallow emotions), and cognitions supportive of offending behaviour. These youth might have no or minimal understanding of their problems and support from others. Factor 2 (Sexual Deviancy) was composed of five items reflecting a pattern of sexually deviant interests, fantasies, and behaviours. Youth obtaining a high score on this factor would tend to experience an entrenched pattern of deviant sexual interests (e.g., sex with children, sex involving violence and/or humiliation) and engage repeatedly in activities to fulfill those interests (e.g., viewing child or violent pornography, obtaining job opportunities that would provide access to nonconsenting younger victims). These youth might have an intense preoccupation with sexual activity. Regarding their sexual offending behaviour, high-scoring youth might engage in careful planning, and have a pattern of offending that is precipitated by similar triggers (e.g., peer and/or familial rejection).

Three *dynamic risk variables* loaded on the Sexual Deviancy factor, but fell below the item-factor loading minimum criterion for interpretability: Emotional control, Intimacy skills deficits, and Return to high-risk situations. The first two items had small item-total correlations (*r*'s = .06 and .08, respectively) although it was surprising that intimacy skills deficits did not load significantly on Factor 2 given that social isolation is identified as a risk factor for sexual violence among sexually offending youth (e.g., Kenny et al., 2001; Långström & Grann, 2000; Seto & Lalumière). On the other hand, return to high-risk situations correlated reasonably well with the Dynamic component of the scale (*r* = .24). Intimacy skills deficits and return to high-risk situations do not reflect an entrenched pattern of sexual deviancy per se, which may have led

to their lower loading on Factor 2. Furthermore, difficulty managing emotions (under-and-over-controlling) had a small item-total correlation (r = .06) and similarly, may be linked to sexual (and/or nonsexual) offending as opposed to reflect a pattern of deviant sexual interests, fantasies, and behaviours. Equally important, not every dynamic risk item will predict recidivism on every sample. The sum of the items (i.e., gestalt) is used to assess risk for future violence and evidence on whether these items predict recidivism risk most of the time is of utmost importance.

Lastly, two practical issues regarding FA are worth mentioning. The total sample (N = 98) and participant-variable ratio (5.8:1) for Phase I were less than optimal for a FA as it could affect the reliability of correlation coefficients and stability of the factor solution or underlying processes responsible for those correlations (Tabachnick & Fidell, 2007). Consequently, future research on the VRS:YSO would benefit from including a larger sample of sexually offending youth (at least 200) to examine the replication of factor structure.

Overall, Phase I of the research focused on the development and initial psychometric examination of a newly developed risk assessment measure for sexually offending youth, the VRS:YSO. Findings provided preliminary evidence for its reliability (i.e., interrater), sound item properties (internal consistency and item-total correlations), and factor structure that is consistent with research on sexually offending youth and other measures of risk for sexual violence.

5.1.3 Clinical implications and future directions for research.

Results from Phase I of the research have two key implications for the use of the VRS:YSO with sexually offending youth and violence risk assessment in general. First, the decision to maintain the *dynamic risk variables* from the parent measure in the adolescent version was guided by literature indicating that there is an overlap on risk factors for sexual recidivism between adults and youths (see McCann & Lussier, 2008; Seto & Laumière, 2010; Worling & Långström, 2003, 2006). Furthermore, the identified risk dimensions (i.e., Antisocial Tendencies and Sexual Deviancy) appear to inform sexual recidivism risk in both adults and youths who have sexually offended, (Hanson & Morton-Bourgon, 2005; McCann & Lussier, 2008). At the same time, some risk factors appear to be unique to youth such as poor parent-child interaction and family stress (Worling & Långström, 2003, 2006). Equally important, the identification of risk factors contribute to explanatory theories of adolescent sexual offending. Both general delinquency (i.e., theories proposing that sexual offending is a manifestation of general antisocial tendencies) and special (e.g., theories that focus on adverse early experiences,

emotion dysregulation, caregiver-child attachment problems, social incompetence, and atypical sexual behaviours) explanations for adolescent sexual offending can inform why some youth engage in sexually offending behaviour (Seto & Laumière, 2010). This line of research further supports the inclusion of risk factors associated with sexual and nonsexual recidivism in the VRS:YSO (see Seto & Laumière, 2010 for a description of theories of adolescent sexual offending).

Second, there is preliminary support for the basic psychometric properties of the VRS:YSO. These findings are encouraging in light of the uniqueness of the VRS:YSO as a risk assessment measure. Specifically, the VRS:YSO includes systematic rubric to assess change in *risk* for recidivism risk thus allowing one to evaluate whether positive changes in risk are linked to reductions in risk for sexual violence.

Lastly, two directions for future research are worth mentioning. First, a large sample of sexually offending youth is best to conduct a FA and obtain a stable factor solution. Future research could attempt to replicate the VRS:YSO underlying factor structure. Second, findings supported the inclusion of at least one of the experimental variables (i.e., poor parent child-interaction) while raising the possibility for excluding risk factors such as substance abuse. Future revisions to the VRS:YSO might include additional risk factors and/or remove those that demonstrated limited value at this time.

5.2 Phase II Discussion: Comprehensive Psychometric Examination of the Violence Risk Scale: Youth Sexual Offender Version (VRS:YSO)

Phase II of the present research sought to validate the newly developed VRS:YSO by conducting a comprehensive psychometric examination of the measure. Specifically, four types of validity were examined: concurrent, postdictive, predictive, and incremental. Moreover, the psychometric properties of existing risk assessment measures designed for sexually offending youth (i.e., J-SOAP-II, ERASOR, and J-SORRAT-II) were examined to inform the limited, albeit growing, literature on risk assessment with sexually offending youth. All risk assessment measures were rated on a sample of 100 youth files.

5.2.1 Psychometric properties of the VRS:YSO

Concurrent validity for the VRS:YSO.

Concurrent validity for the VRS:YSO was examined via Pearson and Kendall's Tau correlations, which showed that pre-and-post-treatment VRS:YSO scores (individual

components, extracted factors, and combined Static-Dynamic Total) significantly correlated with total scores of the J-SOAP-II, ERASOR (and its SPR), and J-SORRAT-II. Based on Cohen's (1998) guidelines, most correlations ranged from medium to large effects (.30-.86), except for the small effect between the VRS:YSO pre-treatment Factor 2 (Sexual Deviancy) and the ERASOR SPR (Kendall's Tau = .20). The correlations between the VRS:YSO Factor 2 and the other measures were generally smaller, albeit significant, possibly due to those measures (total scores and SPR) tapping on *dynamic risk variables* reflecting primarily sexual deviancy to a lesser extent.

As expected, there were significant positive associations between the VRS:YSO Static component and the Static Subscales I & II of the J-SOAP-II (Sexual Drive/Preoccupation; Impulsive, Antisocial Behavior), Category 2 (Historical Sexual Assaults) of the ERASOR, and J-SORRAT-II Total. These findings are not surprising given that all these components supposedly measure *static risk* for sexual violence. Similarly, there were positive and significant correlations between the VRS:YSO Dynamic component and the Dynamic Subscales III & IV of the J-SOAP-II (Intervention; Community Stability/Adjustment), as well as Categories 1 (Sexual Interests, Attitudes, and Behaviors), 3 (Psychosocial Functioning), and 4 (Family/Environmental Functioning) of the ERASOR, which include *dynamic risk variables*. Overall, these results demonstrated that all these components assess *dynamic risk* for sexual violence. The positive and significant associations between the VRS:YSO Factor 1 (Antisocial Tendencies), Subscale II of the J-SOAP-II (Impulsive, Antisocial Behavior) and Category 3 of the ERASOR (Psychosocial Functioning), as well as between the VRS:YSO Factor 2 (Sexual Deviancy), Subscale I of the J-SOAP-II (Sexual Drive/Preoccupation), and Category 1 of the ERASOR (Sexual Interests, Attitudes, and Behaviors), suggested that these components were measuring similar constructs. Together, these findings demonstrated that the VRS:YSO and other specialized risk assessment measures assess the same underling construct of risk for sexual violence.

Postdictive validity for the VRS:YSO.

The postdictive validity of the VRS:YSO was examined via Pearson correlations using three indices of offending history: total number of prior charges and convictions for sexual offences, and total number of prior convictions. One notable limitation of postdictive validity is duplication of the criterion with the instrument content (i.e., offending history), which inflates the size of the correlation coefficient. Notwithstanding this limitation, it was considered

important to establish this type of validity in light of the evidence that past behaviour is one of the best predictors of future behaviour (Gerhold et al., 2007; Worling & Långström, 2003, 2006). Overall, only pre-and-post-treatment VRS:YSO Static component was significantly associated with sexual offending history, which was expected given that the VRS:YSO Static component is composed of *static risk variables* for sexual violence including prior sex offences.

The positive and significant association between pre-treatment Factor 1 (Antisocial Tendencies) and total number of prior convictions was not surprising, given that youth scoring high on this factor would likely show a pattern of antisocial traits (e.g., defiance, impulsivity, attitudes/beliefs condoning offending behaviour) and lifestyle. Furthermore, the pre-treatment measure reflects youth who have not yet participated in treatment thus, they would likely be at higher risk for criminal behaviour. The pre-treatment VRS:YSO combined Static-Dynamic Total significantly predicted whether youth were accurately categorized as first-time sexual offenders or repeaters, with repeaters having significantly higher scores on virtually all VRS:YSO components, except for Factor 1(Antisocial Tendencies). These findings provided support for the ability of the VRS:YSO to discriminate among sexually offending youth based on their past sexual offending history.

Altogether, there was encouraging evidence for the postdictive validity of the VRS:YSO. Potential issues regarding the completeness of criminal history data might have contributed to the small and/or nonsignificant correlations between other VRS:YSO components and sexual offending history.

Predictive validity for the VRS:YSO.

Correlational, ROC, and survival analyses were used to examine the ability of the VRS:YSO to predict future offending. Youth were followed-up for an average of 11.83 years (*SD* = 3.42, range = 3.89-17.41) starting from their first contact with the community post-adjudication (i.e., release from custody or commencement of a community sentence). Overall recidivism rates were 8% for sexual, 24% for any violent (sexual and nonsexual), and 37% for general (any) offending. Outcome criteria were examined as continuous (i.e., total number of convictions) and binary (yes/no convictions) variables.

Although pre-and-post-treatment VRS:YSO Static component and pre-treatment combined Static-Dynamic Total were significantly associated with sexual recidivism, only the Static component significantly predicted this outcome (AUC = .77 and .79 for pre-and post-

treatment scores). These are considered large effect sizes based on Rice and Harris's (2005) interpretation guidelines. Several researchers have identified ROC analysis as the best statistical method for assessing predictive accuracy as it is unaffected by base rates (contrary to correlation coefficients) and biases for certain prediction outcomes (Mossman, 1994; Rice & Harris, 2005). Although the AUC values for the post-treatment VRS:YSO Dynamic component, pre-and-post-treatment Factor 1 (Antisocial Tendencies) and combined Static-Dynamic Total ranged from moderate to large effect sizes (.64-.75), their confidence intervals did not overlap with .50. These findings suggest that a lack of power (i.e., small sample size and base rate of sexual recidivism) likely contributed to such findings.

Altogether, these findings highlight the predictive value of historical items for the prediction of sexual violence among youth and adults who have sexually offended (Epperson et al., 2005; Harris & Rice, 2003). At the same time, the above results suggest that *dynamic risk variables* are also important predictors of sexual violence in youth. A suggestion that is consistent with research on sexually offending youth and adults (Beggs & Grace, 2010; Olver et al., 2007, Worling, 2004).

Virtually all pre-treatment VRS:YSO components significantly predicted violent (sexual and nonsexual) and general (any) recidivism (*r*'s = .25-.38, AUC's = .67-.73). Similarly, most post-treatment VRS:YSO components significantly correlated with and predicted violent (sexual and nonsexual) and general (any) recidivism (*r*'s = .30-.50, AUC's = .70-.80). Lastly, convergent lines of evidence demonstrated that youth with VRS:YSO Total scores above the median were at higher risk for both types of criminal outcome compared to youth with VRS:YSO Total scores below the median. These findings provided evidence for the predictive power of the VRS:YSO including its *dynamic risk variables* in relation to two different types of criminal outcome.

There was no empirical support for the predictive power of Factor 2 (Sexual Deviancy). It was not surprising that *dynamic risk variables* reflecting a pattern of sexually deviant interests, fantasies, and behaviours did not significantly predict violent (sexual and nonsexual) and general (any) recidivism. However, Factor 2 was expected to predict sexual recidivism in light of the empirical evidence supporting its role in adolescent sexual offending (Pullman & Seto, 2012; Seto & Laumière, 2010; Worling & Långström, 2003, 2006). There are two possible reasons for the lack of significant findings regarding Factor 2. First, a low base rate of sexual recidivism and second, that most sexually offending youth in the present sample were possibly generalist

offenders as opposed to specialist offenders. In the latter case, sexual deviancy may have played a significant role only in a minority of youth (Pullman & Seto, 2012; Seto & Lalumière, 2010).

Lastly, the empirical relationship of pre-treatment *dynamic risk variables* and sexual recidivism was examined via Point biserial (r_{pb}) correlations. Family instability was the only item that was significantly associated with sexual recidivism. Worling & Långström (2003, 2006) identified *high-stress family environment* as a potential risk factor for sexually offending youth although most of the research supporting this association stems from research on violent youth (e.g., Borum, 2000; Lipsey & Derzon, 1998). Although a low base rate for sexual recidivism may have accounted for most nonsignicant correlations, it is known that not every item will be a significant predictor on every sample of sexually offending youth.

Therapeutic (dynamic) change and recidivism.

The relationship between therapeutic (dynamic) change and recidivism was investigated using correlational and ROC analyses. There was no evidence supporting a significant association between the VRS:YSO therapeutic change score and any type of criminal outcome. However, the correlation coefficients were in the expected direction (i.e., inversely associated to criminal outcome) despite the small sample size (N = 53). That is, sexually offending youth who decreased in their risk for sexual violence (i.e., reflected by a higher therapeutic change score due to intervention) had a reduced likelihood for recidivism.

Incremental validity for the VRS:YSO.

The incremental validity of the VRS:YSO Dynamic component over and above the Static component in the prediction to recidivism was examined via Cox regression survival analyses. Both pre-and-post-treatment Dynamic components did not significantly predict any criminal outcome after controlling for the Static component. Results indicated that the pre-treatment Static component uniquely predicted sexual recidivism. Overall, these results supported the predictive power of *static risk variables* for sexual recidivism, and suggested that *dynamic risk variables* may add, albeit minimally, to the prediction of sexual recidivism although possibly have greater predictive power for higher base rate outcomes (i.e., as seen by the e^B values)

Most importantly, the value added by *dynamic risk variables*, even if they are shown not to have incremental validity beyond *static risk variables* in some cases, is that these variables serve more than one purpose. That is, the Dynamic component helps identify targets for risk

reduction services, and thus *dynamic risk variables* do not have to trump the predictive efficacy of *static risk variables* to demonstrate their importance (Wong & Gordon, 2006). Indeed, Douglas and Kropp (2002) noted that relevance to risk management is an important ground for evaluating the value of a risk assessment procedure. Risk assessment and management/treatment model focuses on identifying and applying prevention strategies that flow directly from *dynamic risk variables* to reduce the occurrence of recidivism. Therefore, a more valuable and contemporary conceptualization of risk assessment moves beyond prediction (i.e., identify individuals who are likely to reoffend) into prevention, where the value of *dynamic risk variables* is paramount.

Lastly, the therapeutic change score did not significantly add to the prediction of criminal outcome after controlling for the combined Static-Dynamic component of the scale. Although the relationships between these variables were not statistically significant, they were in the expected direction (i.e., positive therapeutic changes are associated with a decrease on recidivism risk). As mentioned before, low power may have undermined the detection of significant findings, particularly for low base rate outcomes, as the sample for which post-treatment scores were available (hence therapeutic change scores) was small (N = 53).

5.2.2 Psychometric properties of other violence risk assessment measures.

Interrater reliability of the J-SOAP-II, ERASOR, and J-SORRAT-II.

The interrater reliability (IRR) of the J-SOAP-II and J-SORRAT-II fell within the good and excellent range (ICC_1's Consistency = .71 and .83, respectively), which was consistent with prior research (e.g., Aebi et al., 2011; Fanniff & Letourneau, 2012; Martinez et al., 2007; Viljoen et al., 2008). The IRR for the ERASOR Total score fell within the good range (ICC_1 Consistency = .71) though the coefficient was slightly lower than values obtained in prior studies (e.g., McCoy, 2007; Morton, 2003; Viljoen et al., 2009; Worling et al., 2012). The IRR for the ERASOR SPR fell within the fair range (ICC_1 Consistency = .42), which was significantly lower that the values observed in past research (e.g., Morton, 2003; Worling, 2004; Worling et al., 2012). However, a careful examination of raters' agreement on all 16 cases revealed that raters agreed on 75% of cases (12 out of 16) with only minor discrepancies in risk appraisal among raters. Such discrepancy might be attributed to differences in raters' clinical experience. Although there were no significant concerns about rater agreement in relation to the ERASOR SPR, this finding suggests that the subjective nature of rendering overall risk ratings may be

challenging at times. Overall, the present findings provided further support for the IRR of the J-SOAP-II, ERASOR, and J-SORRAT-II.

Concurrent validity for the J-SOAP-II, ERASOR, and J-SORRAT-II.

Consistent with other studies, the J-SOAP-II Total was significantly associated with ERASOR Total and SPR (e.g., Chu et al., 2011; McCoy, 2007; Rajlic & Gretton, 2010), and J-SORRAT-II Total (e.g., Viljoen et al., 2008) scores. The ERASOR Total and SPR were significantly associated with the J-SORRAT-II Total. As reported in prior studies (e.g., Hersant, 2006), there was a significant association between the ERASOR Total and SPR. Additional correlational analyses indicated significant associations between relevant J-SOAP-II Subscales and ERASOR Categories, which indicated that subscales/categories were measuring the same underlying constructs.

Postdictive validity for the J-SOAP-II, ERASOR, and J-SORRAT-II.

There was evidence supporting the relationship between the J-SORRAT-II Total score and sexual and general offending history thus providing preliminary evidence for the tool's postdictive validity. As mentioned earlier, potential limitations on the completeness of criminal history data might have contributed to the observed small and nonsignificant correlations between the other measures and history of sexual offending.

Predictive validity for the J-SOAP-II, ERASOR, and J-SORRAT-II.

Correlational and ROC analyses demonstrated evidence for predictive validity of the J-SOAP-II Static component and Subscale II (Impulsive, Antisocial Behavior) in relation to sexual recidivism. This finding was consistent with some previous studies (e.g., Aebi et al., 2011; Caldwell & Dickinson, 2009; McCoy, 2007; Powers-Sawyer & Miner, 2009). Consistent with Epperson et al. (2005), the J-SORRAT Total score significantly predicted sexual recidivism and provided preliminary evidence for the predictive power of this measure in an independent sample.

The J-SOAP-II Subscales II (Impulsive, Antisocial Behavior) and IV (Community Stability/Adjustment), Static component, and Total score significantly predicted violent (sexual and nonsexual) recidivism. These findings were consistent with few previous studies (Aebi et al., 2011; Caldwell & Dickinson, 2009). Both the ERASOR Category 3 (Psychosocial Functioning) and Total score significantly predicted this outcome. These results were partly consistent with past research (Morton, 2003; Viljoen et al., 2009). Of note, it was occasionally difficult to

compare the present results with past research given that some investigators excluded sexual offences from their definition of violent recidivism and examined nonsexual recidivism. Virtually all J-SOAP-II components and most ERASOR Categories (including its Total, and SPR) significantly predicted general (any) recidivism. Parts of these findings paralleled those found in past research on the J-SOAP-II and ERASOR (e.g., Aebi et al., 2011; Martinez et al., 2007; Rajlic & Gretton, 2010; Viljoen et al., 2012). Recidivism rates were examined for youth categorized as low, moderate, and high risk on the ERASOR. In sum, the survival time for the high-risk group over the follow-up period was significantly shorter than the low-risk group in relation to sexual, violent (sexual and nonsexual), and general (any) recidivism.

Correlational analyses also showed that the J-SOAP-II Total and ERASOR SPR were significantly associated with sexual and violent (sexual and nonsexual) recidivism, respectively. Although ROC analyses revealed nonsignificant results for both measures, the CI for the AUC values associated with sexual outcome did not overlap with .50, suggesting that a lack of power might have contributed to these findings.

Overall, the present findings provided encouraging evidence for the predictive power of the J-SORRAT-II and certain components of the J-SOAP-II for sexual recidivism. Supporting evidence for the predictive power of the ERASOR SPR in relation to sexual recidivism was mixed. Results also provided evidence for the predictive validity of the J-SOAP-II and the ERASOR in relation to violent (sexual and nonsexual) and general (any) recidivism.

Incremental validity for the J-SOAP-II, ERASOR, and J-SORRAT-II.

The value of *dynamic risk variables* over *static risk variables* in the assessment of violence risk tests two assumptions. First, if an offender's risk for violence can be reduced via intervention, then risk must be dynamic in nature or malleable to change. Second, intervention strategies would need to target and lead to positive changes on *dynamic risk variables* to decrease an offender's risk for violence. As a result, risk/needs assessment measures that capture *dynamic risk markers* are needed to assess offenders' risk, guide treatment planning, and assess offenders' changes in risk (Olver & Wong, 2011, see also Douglas & Kropp, 2002; Douglas & Skeem, 2005; Vincent et al., 2012; Wong & Gordon, 2006).

In light of the putative "additive" value of *dynamic risk markers* and the limited research addressing this question directly, the present study investigated the incremental validity of the J-SOAP-II Dynamic component over and above its Static component for the prediction of

recidivism. Consistent with findings for the VRS:YSO albeit contrary with past research on the J-SOAP-II (i.e., Martinez et al., 2007), the J-SOAP-II Dynamic component only added significantly to the prediction of general (any) recidivism after accounting for the Static component. For both sexual and violent (sexual and nonsexual) recidivism, the Static component remained a strong predictor of recidivism even after entering the Dynamic component in the regression model. Altogether, these findings offered limited evidence for the additive value of the J-SOAP-II *dynamic risk variables* over and above *static risk variables* for the prediction of recidivism, and provided further support for the significant contribution of static risk markers for the assessment of recidivism risk (Harris & Rice, 2003). As mentioned before, the value of a risk assessment measure does not simply rest on its ability to predict an adverse outcome, but on its ability to guide treatment and assess changes in risk thus preventing future violence (Douglas & Kropp, 2002).

In the ERASOR, assessors determine a youth's overall risk for sexual violence (low, moderate, or high) based on their appraisal of risk factors present. This method for deriving risk judgement fits within the structured professional judgement (SPJ) approach. Most predictive validity studies have examined the power of both the ERASOR SPR and Total score although the Total score is solely for research purposes (i.e., the ERASOR developers do not direct assessors to calculate a total risk score, see Worling & Curwen, 2000). For this reason, it was examined whether the ERASOR Total score added to the prediction of recidivism risk over and above the SPR. Surprisingly, there was only evidence for the incremental validity of the total score over the SPR for general (any) recidivism. The predictive power of the SPR was nonsignificant for all three criminal outcomes after entering the total score in the regression model. These findings suggest that there might be some value in using the total score to communicate risk for criminal behaviour, as well as to examine the possible utility of establishing cut-off scores (see Worling et al., 2012).

5.2.3 Additional analyses: The power of combining risk assessment measures.

Professionals responsible for conducting violence risk assessments with sexually offending youth must gather information from multiple sources including select a battery of assessment measures to guide their decision-making. Given the variability in specialized risk assessment measures designed for sexually offending youth (VRS:YSO, J-SOAP-II, ERASOR, J-SORRAT), professionals may wonder which one is the "best" measure for predicting sexual

(and nonsexual) violence and/or whether there is a specific combination of measures that could be used to "best" predict criminal outcome. In a sample of 215 sexually offending adults, Seto (2005) found that combining the results from four validated actuarial risk measures (i.e., Violence Risk Appraisal Guide, the Sex Offender Risk Appraisal Guide, the Rapid Risk Assessment for Sexual Offense Recidivism, and Static-99) did not significantly increase the accuracy to predict sexual recidivism over the single best actuarial measure. There is also recent evidence that no specialized risk assessment measure significantly outperforms the other in the prediction of sexual (and nonsexual) recidivism (Viljoen et al., 2012).

The present results indicated that the J-SORRAT-II was a robust predictor of sexual recidivism compared to the J-SOAP-II, ERASOR, and VRS:YSO. However, no specialized risk assessment measure outperformed one another in the prediction of violent (sexual and nonsexual) and general (any) recidivism, which is consistent with recent meta-analytic findings (Viljoen et al., 2012). These findings are interesting given that ERASOR and J-SORRAT-II were not intended to predict nonsexual recidivism (see Epperson et al., 2005; Worling & Curwen 2001). The robustness of the J-SORRAT-II over measures that contain *dynamic risk variables* supported the strength of the actuarial risk assessment approach in general (see Hanson & Morton-Bourgon, 2009). Moreover, there was a benefit in adding the J-SORRAT-II to the J-SOAP-II and ERASOR for the prediction of violent (sexual and nonsexual) recidivism. The additive value of the J-SORRAT-II was not observed for general (any) recidivism. For general (any) recidivism, the J-SOAP-II, ERASOR, and VRS:YSO uniquely predicted this outcome over and above the J-SORRAT-II. These findings suggest that the "best" assessment battery may include a combination of specialized actuarial (J-SORRAT-II) and risk-need measures (J-SOAP-II, ERASOR, or VRS:YSO) or just r5isk-need measures. Indeed, the utility of measures that include *dynamic risk variables* (J-SOAP-II, ERASOR, and VRS:YSO) and mechanisms for assessing change (VRS:YSO) move beyond prediction; therefore, their inclusion in assessment batteries should be guided by professionals' contemporary understanding of a valuable violence risk assessment (prevention as opposed to prediction-based frameworks, see Douglas & Kropp, 2002)

5.24 Clinical implications.

Results from Phase II have several implications for the use of the VRS:YSO and other specialized risk assessment measures (i.e., J-SOAP-II, ERASOR, and J-SORRAT-II) with

sexually offending youth in clinical-forensic contexts. First, there was evidence for the concurrent, postdictive, and predictive validity of the VRS:YSO to some extent (particularly in relation any violence and general recidivism). There was also encouraging evidence, albeit offset seemingly by a small post-treatment N and thus restricted power, on the potential value of the therapeutic change score in the prediction of recidivism risk. These findings support the value of the VRS:YSO as a new specialized risk assessment measure particularly as it uniquely includes a systematic rubric for assessing change (see Wong & Gordon, 2006 for discussions of how a modified version of the TTM to assess readiness to change has been introduced in adult risk assessment measures). Professionals utilizing the VRS:YSO will consider *static* and *dynamic risk variables*, as well as use a modified version of the TTM to examine the influence of intervention on risk. Professionals who attend to both types of risk variables and place attention to the dynamic nature of risk are conducting violence risk assessments that focus on the prevention and management of future violence (Douglas & Kropp, 2002; Hart, 2001). Given that the present results provide preliminary evidence on the reliability and validity of the VRS:YSO, further research is needed to better understand the psychometric properties of the measure, especially if any revisions are made to the tool.

Second, the present results contributed to a growing body of literature supporting the use of specialized risk assessment measures with sexually offending youth (e.g., Aebi et al., 2011; Rajlic & Gretton, 2010; Viljoen et al., 2012). At the same time, professionals must appreciate the limitations of these measures (e.g., the J-SORRAT-II includes only *static risk variables*) and research findings (e.g., mixed evidence for the prediction of sexual recidivism). The power of the J-SORRAT-II to predict sexual recidivism over and above risk-need measures (J-SOAP-II, ERASOR, and VRS:YSO), highlight the outperformance of the actuarial approach in the prediction of risk for sexual violence (Hanson & Morton-Bourgon, 2009). Of note, the predictive accuracy results for the VRS:YSO (and other specialized risk assessment measures) in relation to sexual recidivism (AUC's = .66 to .77) were consistent with recent meta-analytic findings on the predictive accuracy of actuarial measures designed for sexual recidivism in adults such as the Static-99 (e.g., d = 0.67, CI = .63, .72; AUC = .68, see Hanson & Morton-Bourgon, 2009), as well as specialized risk assessment measures designed for sexual recidivism in youth such as the J-SOAP-II, ERASOR, and J-SORRAT-II (AUC's = .64 to .67, see Viljoen et al., 2012). As a

result, these findings support the predictive value of non-actuarial approaches for assessing risk for future violence among sexually offending youth.

Moreover, a solid battery of assessment measures would include an actuarial measure such as the J-SORRAT-II and a structured measure that includes *dynamic risk variables* (J-SOAP-II, ERASOR, or VRS:YSO), or only a risk-needs measure. Most importantly, professionals need to survey comprehensive information sources to inform their ratings in risk assessment measures (particularly those that include *dynamic risk variables*), as well as recognize the value of other instruments that inform important responsivity considerations (e.g., cognitive abilities, academic achievement, personality). Although the latter instruments are less critical for the assessment of risk, they have important implications for service delivery. At the same time, professionals have cautioned against the use of risk assessment measures to support legal decisions that require a great degree of prediction such as the civil commitment of youth who have sexually offended (e.g., Caldwell et al., 2008; Viljoen et al., 2009; Viljoen et al., 2012).

Consistent with past research, the present results show that the majority of youth who reoffended had committed nonsexual offences, indicating that the present sample of youth are likely a generalist/versatile group of offenders with only a subgroup presenting as specialized (Seto & Lalumière, 2010). In light of the heterogeneity of sexually offending youth, a careful assessment of the *criminogenic needs* for each youth is important to ensure that interventions directly target identified risk areas.

5.2.5 Limitations and future directions for research.

There are limitations that require attention to have a better understanding of the present findings. First, multiple sources need to be accessed to gather a more accurate representation of recidivism data aside from criminal records including sources tapping on undetected cases such as self- and parent-reports (Viljoen et al., 2009; Worling et al., 2012). Second, a larger sample of male sexually offending youth with significant follow-up periods would increase statistical power for analyses to detect significant differences/effects, particularly for low base rate outcomes such as sexual recidivism. Moreover, the present results were obtained on a sample of young offenders in Saskatoon, SK, Canada. Therefore, results may vary based on samples of young offenders elsewhere in (and outside) the country. For instance, the present sample was less criminalized, lower risk, and had less psychopathic-related features compared to other samples

(e.g., Viljoen et al., 2099; Gretton et al., 2001). Saskatchewan also has a higher Aboriginal population that tends to overrepresented in young offender YO samples although this may not have been the case for sexually offending youth.

Third, limited research has examined developmental differences in the predictive accuracy of specialized risk assessment measures with sexually offending youth and has generally provided no significant developmental differences (e.g., Viljoen et al., 2009). Nonetheless, future research with a larger sample of sexually offending youth could revisit this issue in light of ongoing developmental changes occurring during adolescence. Furthermore, the investigation of other moderator variables such as degree of antisociality (Rajlic & Gretton, 2010) and offence type such as peer/adult sexual offenders versus child sexual offenders (Parks & BARD, 2006) may increase our understanding on the predictive power of risk assessment measures , as well as the relationship between risk for violence and criminal outcome. Fourth, the predictive accuracy of risk assessment measures that include *dynamic risk variables* may lose power over time unless re-assessments take place (Vincent et al., 2012), which is consistent with the use of these measures to assess short-term risk (see Worling et al., 2012). Most importantly, it is important to assess whether scores on *dynamic risk variables* on the J-SOAP-II, ERASOR (as well as the VRS:YSO) change, and whether changes are associated with subsequent reoffending.

For future research, it would be helpful to examine variations of criminal outcome such as severity of offending (e.g., do treated youths reoffend more seriously), and if therapeutic change is linked to reductions in outcome severity. This line of research is important given that risk is not a unidimensional concept and includes multiple aspects including frequency, severity, and duration (Hart, 2001). Lastly, it would be helpful to identify possible protective factors among youth who have sexually offended to ensure representation of these factors in risk assessment measures.

5.3 Phase III Discussion: Relationship Among Psychopathy-Related Personality Features, Criminal and Treatment Outcomes in Youth Who Have Sexually Offended

Phase III of the present research focused on the role of psychopathy-related personality features (as measured by the PCL:YV) in the criminal and treatment outcomes of youth who have sexually offended. The PCL:YV was rated from the same youth files utilized for Phases I and II.

5.3.1 Psychometric properties of the PCL:YV.

Interrater reliability for the PCL:YV.

Interrater reliability coefficient for the PCL:YV Total score fell within the good range (ICC_1 Consistency = .65, see Cicchetti et al., 2006) albeit lower than values found in other studies with sexually offending youth (e.g., ICC_1 = .93, Caldwell et al., 2008; ICC_1 = .88, Viljoen et al., 2009). Differences in IRR (as measured by ICC) may be due to differences in raters' clinical and/or research training with the PCL:YV. It is worth noting that the average PCL:YV Total score in the present sample (*M* = 12.87, *SD* = 6.52, *Mdn* = 11.00) was lower compared to the values reported for other sexually offending youth (e.g., Caldwell et al., 2008; Viljoen et al., 2009) and violent youth (e.g., Stockdale et al., 2010) samples. Thus, it appears that the present sample may be a less criminally prone group of young offenders compared to samples in other studies.

Concurrent validity for the PCL:YV.

Concurrent validity of the PCL:YV and VRS:YSO was examined via Pearson correlations. In sum, the PCL:YV (Total and Factor scores) were significantly associated with virtually all pre-and-post-treatment VRS:YSO components. Not surprisingly, the size of the coefficients between the PCL:YV Factors 3 (Behavioral) and 4 (Antisocial) and the VRS:YSO Factor 1 (Antisocial Tendencies) were the largest ($r > .70$), indicating that all three factors assess characteristics related to antisociality. The significant association between the PCL:YV Factor 1 (Interpersonal) and VRS:YSO Factor 2 (Sexual Deviancy) may suggest that interpersonal features such as manipulation, lying, and impression management are key factors for youth to gain access to victims and maintain a sexually deviant lifestyle. Lastly, the significant and large correlations between the PCL:YV Factor 4 (Antisocial) and the VRS:YSO Static component was expected given that items in both components focus on early onset of antisocial behaviour and criminality.

5.3.2 Psychopathy-related personality features and criminal outcome.

Overall, the PCL:YV Total (for both three- and four-factor models), Factor 3 (Behavioural), and Factor 4 (Antisocial) scores were significantly associated with and predicted violent (sexual and nonsexual) and general (any) recidivism among sexually offending youth (*r*'s = .22-.47, AUC's = .67-.73). Most correlation coefficients (for continuous and binary outcomes) and all AUC values (for binary outcomes) corresponded to medium and large effects (Cohen, 1988; Rice & Harris, 2005). None of the PCL:YV components were significantly associated with nor predicted sexual recidivism, which is consistent with previous findings (Gretton et al., 2001; Gretton et al., 2005; Viljoen et al., 2009). These findings highlight the value of behavioural and antisocial features, captured in the PCL:YV (e.g., impulsivity, stimulation-seeking, and severity of criminal behaviour), for the prediction of violent and general recidivism among sexually offending youth.

Incremental validity of PCL:YV components.

Cox regression survival analyses highlighted the additive value of the Factor 2 (Behavioural/Antisocial) component over and above Factor 1 (Interpersonal/Affective) component for the prediction of violent (sexual and nonsexual) and general (any) recidivism. Further analyses suggested that Factors 3 (Behavioural) and 4 (Antisocial) added to the prediction of both general and violent reoffending, respectively, after controlling for the remaining factors in each regression model. Neither Interpersonal (Factor 1) nor Affective (Factor 2) psychopathy-related personality features significantly predicted both outcomes after the remaining factors were entered into the model.

Altogether, these findings brought into question the incremental validity of individual Factors 1(Interpersonal) and 2 (Affective) for the prediction of violent (sexual and nonsexual) and general (any) recidivism. Other researchers studying violent youth have also raised this issue (e.g., Corrado et al., 2004; Vincent et al., 2008). That is, if the behavioural and antisocial features of the PCL:YV explain all or most of the variance in both criminal outcomes, then to what extent is it necessary to introduce the construct of psychopathy in youth? At the same time, the PCL:YV Total score (i.e., combination of all four facets) is a significant predictor of both criminal outcomes, suggesting that variance captured by the whole PCL:YV personality features may be more or equally valuable than the individual facets or specific group of behavioural and antisocial features (Stockdale et al., 2010). For this reason, it would be hasty to conclude that

psychopathy-related personality features (as measured by the PCL:YV) or the psychopathy construct in general have limited value for the assessment of violence risk in sexually offending youth. Further investigation of the incremental validity of the PCL:YV (and other measures of psychopathy-related personality features) for various criminal outcomes is needed to better understand the role of psychopathy-related personality features in sexually offending youth.

Recidivism and survival rate distributions by PCL:YV group.

Two methods were used to categorize sexually offending youth based on the degree of psychopathic-related personality features present: below and above the median (*Mdn* = 11.00), and 1 *SD* below and above the mean (i.e., 0 to 7, 8 to 19, and 20 to 28). Overall, both methods of grouping significantly predicted violent (sexual and nonsexual) and general (any) recidivism. Specifically, youth in the medium (median-based group) and high (*SD* derived group) PCL:YV group reoffended violently and generally at a significantly higher rate compared to youth in the low (median-based groups), as well as medium and low (*SD* derived groups) PCL:YV groups. Overall, these findings were consistent with Gretton et al.'s (2001) results despite their use of different guidelines to categorize youth into groups.

Psychopathy-related personality features, offender type, and recidivism.

The sample was also divided into offenders with child only victims and offenders with any peer/adult victim. Consistent with Parks and Bard's (2006) findings, offenders with any peer/adult victim had significantly higher PCL:YV scores than offenders with child only victims. The same pattern was evident for the four individual facets, except for Factor 1 (Interpersonal). Moreover, offenders with any peer/adult victim had significantly higher rates of violent (sexual and nonsexual) and general (any) reconvictions compared to those with child only victims. Overall, offenders with any peer/adult victim appear to have a greater criminal propensity compared to those who target children only, and are possibly more similar to nonsexually offending youth.

Consistent with the above findings, offender type moderated the relationship between the PCL:YV and recidivism. Correlational and ROC analyses indicated that the PCL:YV Factor 4 (Antisocial), combined Factors 1 (Interpersonal/Affective) and 2 (Behavioural/Antisocial), as well as total scores significantly correlated with and predicted violent (sexual and nonsexual) and general (any) recidivism only among offenders with any peer/adult victim (r_{pb}'s = .42-.66, AUC's = .75-.88). For offenders with child only victims, only Factor 3 (Behavioural)

significantly correlated with and predicted general (any) recidivism. Compared to offenders with child only victims, offenders with any peer/adult victim had significantly higher and faster rates of violent (sexual and nonsexual) and general (any) recidivism. Of note, neither of the PCL:YV components significantly predicted sexual recidivism in both groups although the magnitude of the correlation coefficients and AUC values were larger for offenders with any peer/adult victim than offenders with child only victims.

5.3.3 Psychopathy-related personality features, criminal and treatment outcome

Out of 62 sexually offending youth who participated in individual and/or group treatment, 36 (58.0%) successfully completed full treatment services, 13 (21.0%) partial treatment services (e.g., one of two groups), and 13 did not complete (21.0%) any sex offender treatment services. As expected, treatment non-completers (i.e., none and partial treatment services) spent significantly less time in treatment compared to treatment completers (i.e., full treatment services) although there were no statistically significant differences between groups on recidivism risk.

Moreover, treatment non-completers had significantly higher PCL:YV scores (i.e., individual facets, combined factors, and total) compared to treatment completers. Increasing psychopathy-related personality features were associated with treatment non-completion. Indeed, consistent with Gretton et al.'s (2005) findings, high PCL:YV scorers were less likely to complete treatment successfully compared to low PCL:YV scorers. Altogether, these findings suggest that a combination of increasing psychopathy-related personality features such as manipulation of others for personal gain, superficiality, glibness, lying, impulsivity, along with criminal propensity interfere with successful treatment completion. Furthermore, high PCL:YV scorers (regardless of treatment status) appeared to be at increased risk for general (any) reoffending. These findings suggest that both psychopathy-related personality features and treatment completion may play important roles on the criminal outcomes of sexually offending youth. It is possible that an interaction between these variables is in effect; however, low power may have undermined the detection of significant findings, particularly for low base rate outcomes, as the sample who attended treatment services was small (N = 62). Future examination of the interaction between psychopathy-related personality features, treatment status, and criminal outcome is needed in light of evidence supporting treatment amenability among nonsexually and sexually offending youth with many psychopathy-related features (e.g.,

Caldwell et al., 2006; Caldwell et al., 2007; Gretton et al., 2005). In light of the limited number of studies addressing this research question and the low power to conduct some of the statistical analyses in this section, it is too premature to conclude that intervention may not have positive change among youth with many psychopathy-related personality features.

Lastly, Cox regression survival analyses revealed that risk-change score (as captured by the VRS:YSO) did not significantly predict any criminal outcome after controlling for psychopathic-related personality features (as captured by PCL:YV Total scores). Of note, the exponentiated regression coefficients (e^B) revealed that the association between the above variables were in the expected direction; that is, higher therapeutic change score was associated with a reduction in risk for recidivism although not statistically significant, again possibly reflecting power limitations from a small post-treatment N.

5.3.4 Clinical implications.

Results from Phase III have several implications for the use of the PCL:YV with youth who have sexually offended in clinical-forensic contexts. First, there was good evidence for the predictive power of the PCL:YV in relation to violent (sexual and nonsexual) and general (any) reoffending, particularly among offenders with any peer/adult victims. Second, neither of the PCL:YV components significantly predicted sexual reoffending, which is consistent with prior research findings (e.g., Gretton et al., 2001; Viljoen et al., 2009), suggesting that specialized risk assessment measures are best suited to assess sexual recidivism risk. Third, increasing psychopathy-related features were significantly associated with the non-completion of treatment. The assessment of psychopathy-related personality features can assist with treatment planning by providing treatment providers information on certain characteristics (e.g., glibness, manipulativeness, and shallow emotions) that might interfere with treatment engagement and successful completion. Knowledge of psychopathy-related personality features (particularly traits captured by the Interpersonal and Affective facets of the PCL:YV) could be used to match treatment service to the personality (along with motivation, ability, and demographic factors such as ethnicity and sex) of the youth as outlined in the *responsivity principle* (Andrews et al., 2006). Youth scoring high on the PCL:YV also reflect a high-risk group of offenders that would benefit from intensive treatment services, which is consistent with the *risk principle* (Andrews et al., 2006). Lastly, an understanding of the ongoing developmental changes occurring throughout adolescence is essential to appreciate the dynamic nature of psychopathy-related personality

features (as measured by the PCL:YV). That is, the presence and/or degree of certain personality features may vary at different points in time; therefore, a re-assessment of these features would be informative. Other researchers have also found that scores on the PCL:YV predict short-term recidivism better compared to long-term (adult) recidivism among young offenders (e.g., Gretton et al., 2004; Stockdale et al., 2010). This finding along with an understanding of the potential instability of psychopathy-related personality features among certain young offenders serve to caution against making long-term decisions about a youth's risk for recidivism and amenability for treatment (Viljoen et al., 2010).

5.3.5 Limitations and future directions for research.

Phase III of the research has limitations that must be considered for the interpretation of findings. As mentioned before, CPIC criminal records, albeit thorough as it captures youth and adult charges, convictions, and sentences, is an imperfect means for obtaining an accurate representation of criminal behaviour as it captures only detected cases. Professionals have recommended the use of additional sources to capture offending behaviour such as self-report and treatment records (e.g., Viljoen et al., 2009). Second, a larger sample might allow statistically significant differences or effects to be detected (e.g., psychopathy-related personality features, treatment status, and criminal outcome), particularly when predicting low base rate outcomes such as sexual recidivism. Third, the PCL:YV was coded solely from youth files, which might have reduced the likelihood to assess accurately traits in the Interpersonal and/or Affective facets of the PCL:YV. Future research should attempt to code the PCL:YV based on a combination of file review and clinical interview, which is a recommendation made by other researchers as well (e.g., Viljoen et al., 2009).

Fourth, the present study examined the role of psychopathy-related personality features on the criminal and treatment outcomes for the whole sample. Future research should attempt to examine various moderator variables such as age (e.g., Viljoen et al., 2009), an antisociality-based typology (e.g., Rajlic & Gretton, 2010), and offender type (e.g., Parks & Bard, 2006) to better understand the relationships between the role of psychopathy-related personality features in the outcomes of sexually offending youth. It would also be worthwhile to examine the predictive ability of the PCL:YV for youth and adult recidivism outcomes separately to test whether there are differences in performance for sexually offending youth (see Stockdale et al., 2010). Lastly, it would be useful to code the PCL:YV prior to and following treatment to assess

change in psychopathy-related personality features, and examine the relationship between these changes and criminal outcome. Notwithstanding these limitations, the present study contributed to a limited body of research examining the role of psychopathy-related personality features (as measured by the PCL:YV) on the prediction of criminal and treatment outcomes among sexually offending youth. Overall, it provides good evidence for the import of psychopathy-related personality features in relation to recidivism risk and successful treatment completion in this young offender sample.

Chapter 6.

General Discussion

Sexual violence committed by youth is a serious social problem that brings substantial costs to communities. Canadian crime statistics revealed that young males, ages 13 to 17, had the highest rate of sexual offending compared to other age groups in 2002 (Juristat, 2003). Literature on male adults and youth who have sexually offended indicate that some individuals experience sexual deviancy and/or start sexually offending in adolescence although such behaviour may be undetected (Becker et al., 1986a; Knight & Prentky, 1993; Longo & Groth, 1983; Zolondek et al., 2001). Furthermore, some youth who have sexually offended display recurrent sexual offending behaviour that may persist into adulthood (Becker et al., 1986b; Hagan et al., 1994; Rubinstein et al., 1993; Worling & Långström, 2006). When sexually offending youth become involved with criminal justice system, decisions must be made regarding their management and treatment. It is important to determine youths' risk for violence to provide appropriate management strategies for these youth (e.g., intensity of services is connected to risk level) and interventions that target areas that are associated with risk for violence (i.e., criminogenic needs to prevent future offending behaviour. For instance, several researchers have found that treatment can reduce sexual offending among sexually offending youth, presumably by lowering their risk for sexual violence (e.g., Borduin et al., 2009; Reitzel & Carbonell, 2006; Walker et al., 2004). Consequently, a comprehensive risk assessment is critical as it provides information about a youth's risk for sexual violence and guides treatment planning (Worling & Curwen, 2001).

Summary of Broad Themes and Key Findings

The current research was archival in nature. It was divided into three phases and focused on the comprehensive psychometric examination of the Violence Risk Scale: Youth Sexual Offender version (VRS:YSO), as well as examined the role of psychopathy-related personality features on the treatment and criminal outcomes of sexually offending youth. Phase 1 focused on the initial psychometric examination of the newly developed VRS:YSO. The developers of the parent measure, VRS–SO (Wong et al., 2003), completed the structural revisions to the tool. The revision process was guided by a thorough review of the relevant literature on youth and adults who have sexually offended, youth violence, and adolescent development, as well as a review of a measure designed to assess risk for violence among violent youth (i.e., the VRS:YV).

The resulting risk assessment measure, the VRS:YSO, consisted of six *static* and 17 *dynamic risk variables* that are empirically and/or theoretically associated with an increased risk for sexual violence among sexually offending youth. The VRS:YSO was designed to assess risk for sexual violence (pre-and-post-treatment), inform treatment planning by identifying treatment targets, assess readiness to change, and evaluate whether positive changes in risk are linked to reductions in risk for sexual violence. A unique feature of the VRS:YSO, compared to other specialized risk measures designed for sexually offending youth, is its inclusion of a systematic rubric to assess change, which allows professionals to sensitively monitor changes in youth's risk for violence. VRS:YSO items were rated from comprehensive youth files (N = 99). These youth had received outpatient services (assessment and/or treatment) from the Saskatoon Health Region, Child and Youth Services (CYS)–Young Offender Program (YOP) between 1995 and 2008. The same sample was used for Phases II and II of the research.

In sum, inter-rater reliability analyses for the pre-and-post treatment VRS:YSO (i.e., individual and total components) ranged from good to excellent. The internal consistency of the pre-treatment VRS:YSO combined Static-Dynamic Total was acceptable, supporting the homogeneity of test items. Item-total correlations for the VRS:YSO Dynamic component showed that most *dynamic risk variables* had moderate to large correlations with the entire scale, suggesting that these variables measure a similar construct as the rest of the scale (i.e., risk for sexual violence). Results from an Exploratory Factor Analysis on the pre-treatment VRS:YSO Dynamic component suggested an orthogonal two-factor solution. The extracted factors were labelled Antisocial Tendencies (Factor 1) and Sexual Deviancy (Factor 2) in light of the items composing each factor. These identified risk dimensions are consistent with factor structure of the VRS:SO (see Olver et al., 2007) and research on risk factors among male adults and youth who have sexually offended (e.g., Hanson & Morton-Bourgon, 2005; McCann & Lussier, 2008; Seto & Lalumière, 2010), as well as are captured by other measures designed to assess risk for sexual violence among youth (e.g., J-SOAP-II; Righthand et al., 2005).

Phase II focused on the validation of the VRS:YSO via the examination of its concurrent, postdictive, predictive, and incremental validity. All risk assessment measures were rated retrospectively from the same sample of youth files as in Phase I. Youth were followed-up for an average of 11.83 years starting from their first contact with the community post-adjudication (i.e., release from custody or commencement of a community sentence). Reconvictions rates

were 8% for sexual, 24% for any violent (sexual and nonsexual), and 37% for general (any) offending. In sum, the VRS:YSO significantly correlated with other specialized risk assessment measures (i.e., J-SOAP-II, ERASOR, and J-SORRAT-II), suggesting that all these measures are assessing the same underling construct (i.e., risk for sexual violence). The VRS:YSO Static component was significantly associated with sexual offending history, and the combined Static-Dynamic Total significantly predicted group membership (i.e., first-time sexual offenders vs. repeaters). Together these findings encouraging evidence for the postdictive validity of the VRS:YSO.

Focusing on the predictive validity of the VRS:YSO, only the static component of the scale significantly predicted sexual recidivism. Virtually all VRS:YSO components significantly predicted violent (sexual and nonsexual) and general (any) recidivism. Furthermore, youth with VRS:YSO combined Static-Dynamic Total scores above the median were at higher risk for both criminal outcomes compared to youth who obtained total scores below the median. Altogether, there was good evidence for the predictive validity of the VRS:YSO, particularly with respect to any violence and general recidivism. There was also encouraging evidence, albeit offset seemingly by a small post-treatment N and thus restricted power, on the potential value of the therapeutic change score in the prediction of recidivism risk.

Altogether, Phases I and II provided good preliminary evidence for the basic psychometric properties of the VRS:YSO, as well as its concurrent, postdictive, and predictive validity. Furthermore, there was encouraging evidence on the importance of the therapeutic change score for the prediction of criminal outcome. These findings support the unique contribution of the VRS:YSO to the risk assessment field on sexually offending youth. As mentioned above, the VRS:YSO helps identify treatment targets (or criminogenic needs) via its assessment of *dynamic risk* factors, which serves to guide intervention strategies with sexually offending youth. The VRS:YSO also helps assess youths' motivation to modify their behaviour prior to and following treatment. Motivation is malleable; therefore, it can also be targeted in treatment (e.g., motivational interviewing strategies). Developers of the VRS measures (VRS–SO, VRS:YV, and the newly developed VRS:YSO) focus on therapeutic change and its association with reductions in recidivism risk, as one would expect risk to be dynamic and presumably influenced by intervention (Wong & Gordon, 2006). Such focus is consistent with

prevention as opposed to a prediction-based model of violence risk assessment (see Douglas & Kropp, 2002).

Equally important, research evidence thus far on the parent measure, the VRS–SO, support the predictive validity of the scale, the dynamic nature of risk (i.e., *dynamic risk variables* are indeed dynamic), and the association of positive therapeutic change with reduction of recidivism risk (e.g., Beggs & Grace, 2010; Olver & Wong, 2011; Olver et al., 2007). Results on the VRS:YSO, albeit preliminary, are consistent with those of the parent measure and highlight the use of the VRS:YSO for the assessment of risk and need within a treatment context.

Moreover, a second objective of Phase 2 was to examine the psychometric properties of existing specialized risk assessment measures (i.e., J-SOAP-II, ERASOR, and J-SORRAT-II) to inform the limited, albeit growing, literature on risk assessment with sexually offending youth. . Consistent with existing research, there was good evidence for the reliability and concurrent validity of these risk assessment measures, as well as the postdictive validity of the J-SORRAT-II only. There was good evidence for the predictive validity of the J-SORRAT-II and certain components of the J-SOAP-II for sexual recidivism. In addition, there was good evidence for the predictive validity of the J-SOAP-II and ERASOR for violent (sexual and nonsexual) and general (any) recidivism. Overall, Phase II contributed to a growing body of literature supporting the use of specialized risk assessment measures with sexually offending youth. At the same time, it is important for professionals to appreciate the limitations of some of these measures. For instance, the J-SORRAT-II is solely composed of *static risk variables* thus is unable to inform treatment. An understanding of possible variations in research findings is also critical. For instance, mixed evidence for the prediction of sexual recidivism may be due to differences in sample composition, methods utilized for coding measures, length of follow-up and base rates, among other factors.

As part of conducting a comprehensive violence risk assessment with youth, professionals must rely on multiple sources to guide their item ratings on risk measures. In light of the variability in specialized risk assessment measures (e.g., VRS:YSO, J-SOAP-II, ERASOR, J-SORRAT), professionals may wish to know which one is the "best" measure to predict sexual (and nonsexual) violence and/or whether there is a specific combination of measures that could be used to "best" predict future violence. Results from Phase II suggest that the "best" assessment battery might include a combination of a specialized actuarial measure

(e.g., J-SORRAT-II) and a structured measure that assess *dynamic risk* factors (e.g., J-SOAP-II, ERASOR, or VRS:YSO). Professionals also wishing to assess youth's motivation to change their behaviour (i.e., engage in treatment), changes in risk in a systematic manner, and the association between therapeutic change and recidivism risk would further benefit from using the VRS:YSO. Ultimately, the use of a specific risk assessment measure(s) is guided by the assessor's framework for assessing violence risk (prediction solely vs. prediction along with management and prevention of future violence).

Lastly, there has been an increasing interest in the role of psychopathy-related personality features on the criminal and treatment outcomes of sexually offending youth (e.g., Gretton et al., 2005; Gretton et al., 2001). Phase III sought out to address this interest and to contribute to the limited body of research in this area. The PCL:YV was rated retrospectively from the same youth files used in Phases II and I. In brief, the PCL:YV significantly predicted violent (sexual and nonsexual) and general (any) reoffending, particularly among offenders with any peer/adult victims. Further analyses revealed that the behavioural and antisocial features captured by the PCL:YV are robust predictors of both outcomes among sexually offending youth. An implication of these findings is that specialized risk assessment measures might be best suited to assess sexual recidivism risk.

The combined Factor 2 (Behavioural/Antisocial) significantly predicted violent (sexual and nonsexual) and general (any) recidivism over and above the combined Factor 1 (Interpersonal/Affective). These findings brought into question the incremental validity of the Interpersonal and Affective facets of the PCL:YV for the prediction of criminal outcome. However, it is worth noting that the PCL:YV Total score significantly predicted criminal outcome, suggesting that the variance captured by the whole PCL:YV may be more or equally valuable compared to the individual facets (see Stockdale et al., 2010).

Increasing psychopathy-related personality features were significantly associated with non-completion of treatment, suggesting that the assessment of such personality features would be useful for guiding treatment. Specifically, there are certain psychopathy-related personality features (e.g., glibness, manipulativeness) that might interfere with treatment engagement and successful completion. This knowledge could be used to match treatment service and delivery to each youth. The presence and/or degree of certain personality features may vary at different points in time in light of the ongoing developmental changes taking place during adolescence.

Consequently, it is important to consider re-assessment of these psychopathy-related personality features.

In conclusion, the present research, Phases I to III, were conducted to advance our knowledge of violence risk assessment with sexually offending youth, to inform assessment practices with sexually offending youth in clinical-forensic contexts, and to promote further research in this challenging area of clinical practice.

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Footnotes

[1] A youth who has sexually offended is defined as an male between the ages of 12 and 18 who has committed any sexual offence contrary to Canadian law.

[2] Youth attending sex offender services at the YOP are virtually all male; in addition, literature on violence risk assessment with youth who have sexually offended is based primarily on male offenders. As a result, only male youth were included in the present research to be consistent with current research base and demographics of sexually offending youth attending services at the YOP in Saskatoon.

[3] If the bottom value from the range of moderate effect size values (r = .20), an alpha level of .05, and power of .80 were selected, then a total sample of 196 participants would be needed.

Appendix A

Youth Who Sexually Offend (YSO) Coding Protocol

Subject ID #:	Coder:
Date of Birth (dd/mm/yy):	Date:
Sex:	
Ethnicity: 1. Caucasian 2. Aboriginal 3. Other (specify): 4. Unknown	

CRIMINAL HISTORY AND INDEX OFFENCE

- Date of first charge (dd/mm/yy): _____
    - Age at first charge(s) (DOB – Date of 1st charge = in months): _____
- First charge (circle all that apply and list each charge):
    1. Sexual – contact
    2. Sexual – noncontact
    3. Nonsexual Violent
    4. Nonsexual Nonviolent
- Date of first conviction (dd/mm/yy): _____
    - Age at first conviction (DOB – Date of 1st conviction = in months): _____
- First conviction (circle all that apply and list each conviction):
    1. Sexual – contact
    2. Sexual – noncontact
    3. Nonsexual Violent
    4. Nonsexual Nonviolent

CRIMINAL HISTORY (prior to the index offence)

Total # of prior charges for sexual offences (contact + noncontact)	
Total # of prior adjudicated sexual offences (contact + noncontact)	
Date of 1st adjudicated sexual (contact or noncontact) offence (dd/mm/yy)	
Date of 1st sexual (contact or noncontact) offence (dd/mm/yy)*	
Total # of prior adjudicated nonsexual violent offences	
Date of 1st adjudicated nonsexual violent offence (dd/mm/yy)	
Total # of prior adjudicated nonsexual nonviolent offences	
Date of 1st adjudicated nonsexual nonviolent offence (dd/mm/yy)	

Total prior adjudicated offences (sex + nonsex violent + nonsex nonviolent)	
Total # of prior breaches	
Total # of prior escapes	

Note: Adjudicated offences refer to offences for which the court has found the youth guilty (i.e., convicted).
*Refers to any offence, not necessarily formally charged or sentenced.

INDEX OFFENCE (offence(s) that led to the assessment and/or treatment at outpatient sex offender services)

- Date of index offence (dd/mm/yy): _____
    - Age at index offence (DOB – Date of index offence = in months): _____
- Index offence (circle all that apply and list each offence)
    1. Sexual – contact
    2. Sexual – noncontact
    3. Nonsexual Violent
    4. Nonsexual Nonviolent
- Total number of index convictions: _____
- Index sentencing date (dd/mm/yy – if multiple dates, code the earliest date): _____
- Index sentence length: _____
- Sentence type (circle all that apply):
    1. Closed/secure custody
    2. Open custody
    3. Probation

VICTIM AND OFFENCE CHARACTERISTICS

SEXUAL OFFENDING	**Index**	**History**
Number of male victims		
Number of female victims		
Number of child victims (<12 yrs)*		
Number of adolescent victims (12-18 yrs)*		
Number of adult victims (>18 yrs)*		
Number of related/intrafamilial victims		
Number of unrelated but known victims (i.e., friends and acquaintances)		
Number of stranger victims		
Total number of victims		

*Specify age of each victim.

NONSEXUAL OFFENDING	Index	History
Number of male victims		
Number of female victims		
Number of child victims (<12 yrs)*		
Number of adolescent victims (12-18 yrs)*		
Number of adult victims (>18 yrs)*		
Number of related/intrafamilial victims		
Number of unrelated but known victims (e.g., friends and acquaintances)		
Number of stranger victims		
Total number of victims		

*Specify age of each victim.

INDIVIDUAL FUNCTIONING

- Services received at CYS–YOP (circle all that apply)
  1. Psychological Assessment
  2. Individual Treatment
  3. Group Treatment

- Received a court-ordered assessment (Y/N)
  - If so, level of risk mentioned in report (e.g., moderate): _____

DIAGNOSTIC INFORMATION (list DSM diagnoses if available on file)	
Primary Diagnosis (Axis I)	Secondary Diagnosis (Axis II)
Other concerns (i.e., Fetal Alcohol Spectrum Disorders, suicide, and/or self-harm):	

ACADEMIC FUNCTIONING	
School status (at time of their assessment at YOP) 0 = quit 1 = expelled 2 = attending 3 = completed	
Current grade level (at time of their assessment at YOP)	
Highest grade achieved (prior to the date of their assessment at YOP)	

FAMILY FUNCTIONING

- Current living situation (at time of their assessment at YOP):
  1. Both biological parents

2. One biological parent
3. Other relatives
4. Foster care
5. Other (specify): _____

- Stability of current living situation (as indicated above):
    1. Stable
    2. Moderate instability
    3. Severe instability

EXPOSURE TO CHILD ABUSE			
Physical abuse: 0 = No 1 = Yes	Severity: 1 = mild 2 = moderate 3 = severe	Number of occurrences: 1 = Single 2 = Multiple	
Sexual abuse: 0 = No 1 = Yes	Nature:	Number of occurrences: 1 = Single 2 = Multiple	
Emotional abuse: 0 = No 1 = Yes	Severity: 1 = mild 2 = moderate 3 = severe	Number of occurrences: 1 = Single 2 = Multiple	

TREATMENT	
Attended individual tx addressing sexual offending behaviour (y/n)	
If yes, approximately how many sessions were attended?	
Attended group tx addressing sexual offending behaviour (y/n)	
List all sex offender tx groups attended: Name, start (1st session) and end (last session) dates (dd/mm/yy), and approx. # of sessions.	
Successful completion (y/n) for each of the groups indicated above:	
If not successfully completed, approx. how many sessions did youth attend? Specify for each of the groups indicated above:	
If not successfully completed, what were the reasons for discharge as determined by the group leader? Specify for each of the groups indicated above:	
Evidence of sexually inappropriate behaviour while attending treatment (y/n) – Specify	

Youth Who Sexually Offend (YSO) Coding Protocol Guide

1. CRIMINAL HISTORY AND INDEX OFFENCE

-Age is coded in months for all variables in this section (see the Age in Months Sheet)

Age at first charge(s): refers to the youths' age in months at the time they committed the first offence for which they were formally charged. It is irrelevant whether the charge was followed by a conviction or not.

First charge: refer to the Corrections Coding Manual to identify whether an offence is *sexual*, nonsexual *violent*, and nonsexual *non-violent*. List each charge and corresponding criminal code section.

Criminal History

-This section refers to **all pre-assessment** (prior to the date of their assessment) offences **excluding** the index offence.

Total # of prior adjudicated offences: refers to (sexual, non-sexual violent, and nonsexual nonviolent) offences for which the court has found the youth guilty (i.e., convicted).

Date of 1st sexual offence: refers to any sexual offence, not necessarily formally charged or sentenced. The importance is that the offence is of a nature that it could have resulted in a charge.

Index Offence: refers to the offence(s) that led to the assessment and treatment at outpatient sex offender treatment services. Index offence does not necessarily have to be only a sexual offence.

Date of index offence <u>and</u> Age at index offence: refers to the date when the index offence actually happened – not investigated, charged, or adjudicated. Code the youth's age in months (see the Age in Months Sheet). If the index happened over a long period of time (e.g., a couple of years), code the date and the youth's age at the beginning of the offending behaviour.

Index offence: refer to the Corrections Coding Manual to identify whether an offence is *sexual*, nonsexual *violent*, and nonsexual *non-violent*. List each offence and corresponding criminal code section.

Total number of index convictions: refers to the number of convictions the youth obtained for the index offence(s).

Victim and Offence Characteristics

-Code the sex, age, and relationship of all victims in the applicable column (index and history). For all charges and convictions.

2. INDIVIDUAL FUNCTIONING

Services received at CYS–YOP: refers to *any* psychological assessment, individual treatment, and/or group treatment services received by youth at CYS–YOP.

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3. FAMILY FUNCTIONING

Stability of current living situation: use the J-SOAP-II guidelines to code this variable.

Exposure to Child Abuse: child abuse refers to the violence, mistreatment, or neglect that a child or adolescent may experience while in the care of someone they either trust or depend on, such as a parent, sibling, other relative, caregiver, or guardian (Department of Justice Canada/Health Canada). Use the criteria below to code the following items:

Physical abuse – It may consist of just one incident or may happen repeatedly. It involves deliberately using force against a child in such a way that the child is either injured or at risk of being injured. Physical abuse includes beating, hitting, shaking, pushing, choking, biting, burning, kicking, or assaulting a child with a weapon. It also includes holding a child under water, or any other dangerous or harmful use of force or restraint.

Physical abuse can occur as a result of *inappropriate punishment* (e.g., hitting with hand or object) that has led to physical harm or put the child at risk for harm. The *judgment of appropriateness is based on many factors, including the severity of harm or potential harm, the amount of force used, the type of punishment relative to the age of the child, and the frequency of punishment*. Physical abuse can also occur as a result of Shaken Baby Syndrome (brain or neck injuries as a result of baby being shaken), or as a result of a physical assault that is inflicted on a child, such as intentionally burning a child or hitting the child in a manner that does not appear to the intended as punishment (Department of Justice Canada/Health Canada). In keeping with this definition, do not automatically code physical punishment such as spanking as physical abuse. Use the above factors to determine whether or not that punishment was appropriate.

The severity would depend on the type of act as well as frequency, duration, and impact on the child. Rating for this item is subjective, but remember that all levels of severity are still considered abuse (it is incorrect to code “no” for presence of abuse and then “mild” for severity).

The following are examples of each level of severity:

1 = Mild – Ex. Slapping 13-year-old for non-punitive reason one time

2 = Moderate – Ex. Frequently slapping 13-year-old for non-punitive reason

3 = Severe – Ex. Beating a 3-year-old with a belt

Sexual abuse – It involves using a child for sexual purposes. It includes fondling, invitation to touch or be touched, attempted or completed intercourse, incest, sodomy, exhibitionism, and exploitation through prostitution or pornography (Department of Justice Canada/Health Canada). Code the presence or absence of sexual abuse, as well as the number of occurrences. Also, briefly describe the nature of the sexual abuse.

Emotional abuse – It involves harming a child's sense of self. It includes acts or omissions that result in, or place a child at risk of, serious behavioural, cognitive, emotional, or mental health problems. For example, emotional abuse may include verbal threats, social isolation, intimidation, exploitation, or routinely making unreasonable demands. It also includes terrorizing a child or exposing them to family violence (Department of Justice Canada/Health Canada).

The severity would depend on the type of act as well as the frequency, duration, and impact on the child. Rating for this item is subjective, but remember that all levels of severity are still considered abuse (it is incorrect to code "no" for presence of abuse and then "mild" for severity).

The following are examples of each level of severity:

1 = Mild – Ex. Occasional deprecating statements

2 = Moderate – Ex. More significant use of deprecating statements

3 = Severe – Ex. Frequent use of deprecating statements

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4. TREATMENT

Coding for these items focus specifically on sex offender-related treatment (individual and group).

Evidence of sexually inappropriate behaviour while attending treatment: This variable is <u>not</u> restricted to behaviour that is necessarily criminal or offending behaviour. It is defined more broadly, as socially less acceptable and not necessarily criminal (e.g., some fetishism tendencies). Use your own judgment to determine the appropriateness of the behaviour.

Appendix B

Violence Risk Scale: Youth Sexual Offender Version (VRS:YSO) Draft Version 1

Static Factors	Dynamic Factors
S1. Early onset of serious antisocial behavior S2. Criminality S3. Instability of family upbringing S4. Prior sex offenses S5. Unrelated victims S6. Number and gender of victims	D1. Sexually deviant lifestyle pattern D2. Sexual compulsivity D3. Offense planning D4. Callous and unemotional traits D5. Cognitive distortions D6. Interpersonal aggression D7. Emotional control D8. Insight D9. Substance abuse D10. Community support D11. Return to high risk situations D12. Sexual offending cycle D13. Impulsivity D14. Noncompliance with community supervision D15. Treatment noncompliance D16. Deviant sexual interests D17. Intimacy skills deficits
Experimental Factors E1. Poor parent-child interaction E2. Family Stress E3. Community Disorganization	

Violence Risk Scale: Youth Sexual Offender Version (VRS:YSO) Draft Version 1 Coding Guide

STATIC FACTORS

S1 Early Onset of Serious Antisocial Behaviors

Objective
To determine the extent to which the youth (prior to age 12) engaged in serious antisocial behavior that resulted in significant disruption of day-to-day functioning or, had the youth been older, would have resulted in formal sanctions. Serious antisocial behavior includes assaulting or bullying other individuals, stealing, drug use or distribution, or sexually intrusive behaviors.

Rate Overall Behavior **0 1 2 3**

0 Rating
Prior to age 12 there are no indications that the youth engaged in any type of serious antisocial behavior.

1 Rating
The youth acted out in a few isolated antisocial acts incidents prior to age 12. Problems were not considered serious as evidenced by the fact that they were handled usually within the family.

2 Rating
The youth engaged in antisocial or problematic activities on a number of occasions before age 12. The caregivers likely required the assistance of some community agencies to assist them in managing the child's behaviors.

3 Rating
Antisocial and problematic behaviors were quite typical occurrences before age 12. The seriousness of the behaviors often warranted the involvement of personnel from agencies such as school, social services, or criminal justice to assist in managing the behaviors. Repeated school transfers not resulting from relocation may also be evident.

S2 Criminality

Objective
To determine whether, since the age of 12, criminal behaviors are part of the youth's customary behavior.

Rate Overall Behavior **0 1 2 3**

0 Rating
The youth has not engaged in criminal activity.

1 Rating
The youth has only engaged in a few isolated criminal acts. However, these are atypical incidents. It is unlikely that the youth has had formal contact with the justice system.
2 Rating
The youth has engaged in criminal behaviors on a number of occasions. The youth likely will have been arrested and/or had official contact with the justice system. While criminal activities have occurred repeatedly, they still do not take up a substantial amount of the youth's free time or constitute a pattern of such activities.

3 Rating
Criminal behavior seems to be a typical part of the youth's functioning. The youth is likely to have had multiple arrests and convictions. He or she may spend a substantial portion of their free time engaging in criminal activities.

S3 Instability of Family Upbringing

Objective
To determine the stability of the youth's upbringing.
Note: Family is defined as biological family, extended family, foster care, group home, or a similar childcare arrangement.

Rate Overall Behavior **0 1 2 3**

0 Rating
The youth was raised in a fairly stable family environment. His or her physical and emotional needs were generally met. There is no evidence to suggest emotional, physical, or sexual abuse or neglect. The youth may have been placed in foster care but there was good quality care and supervision.

1 Rating
There is less stability and structure in the individual's family upbringing than is described in the 0 Rating but the youth's overall upbringing could be described as fairly stable and adequate.

2 Rating
There was relatively more stability and structure in the youth's family upbringing than is described in the 3 Rating but the youth's overall upbringing could be described as unstable and inadequate.

3 Rating
The youth has experienced very little family stability to the point of the assessment. Caregivers may have been unwilling or unable to provide proper supervision of the youth. Discipline may have been nonexistent, harsh, or punitive. The individual may have experienced emotional, physical, and/or sexual abuse and neglect. The youth may have spent time in a number of foster homes or with a number of different people (friends, relatives, acquaintances) where there was significantly substandard care and supervision compared to local or generally acceptable standards of care.

S4 Prior Sex Offenses

Objective
To determine the extensiveness of the youth's official sexual offending history.

Rate Overall Behavior **0 1 2 3**

0 Rating
The youth has no charges or convictions for prior sex offenses.

1 Rating
The youth has one prior charge or conviction for a sex offense.

2 Rating
The youth has two prior charges or convictions for sex offenses.

3 Rating
The youth has three or more prior charges or convictions for sex offenses.

Note: Count the total number of officially sanctioned sexual offenses, that is, arrests, charges and convictions for any sexually motivated offense. Do not count the index sex offense, (the youth's most recent sex offense), which is usually but not necessarily the one for which the current disposition was imposed. A sexually motivated offense is any actual, attempted, or threatened sexual behavior directed towards an individual who has either not consented or was unable to give consent (e.g. due to young age or was developmentally delayed). The sex offense can be either a contact offense with physical victim contact or non-contact offense with no physical victim contact. *Include* self-reported official sexual offenses that may have been left out of official records, or is only available in official records from another jurisdiction or country, but *exclude* sex offenses that have not been reported to authorities (e.g., social services, police). Exclude offenses such as soliciting for the purpose of prostitution, possession of child pornography, and so forth. They are clearly illegal and sexually motivated but there is no specific victim involved.

S5 Unrelated Victims

Objective
To determine the number of unrelated victims against whom the youth has committed sex offenses.

Rate Overall Behavior **0 1 2 3**

0 Rating
The youth has no unrelated victims. Alternatively, the youth has only related victims.

1 Rating

The youth has one unrelated victim.

2 Rating
The youth has two unrelated victims.
3 Rating
The youth has three or more unrelated victims.

Note: To score this item, count the number of different unrelated victims (*related* refers to kinship wherein marriage would ordinarily be prohibited such as aunt/uncle, siblings, or cousins) from the individual's sex offenses. Foster siblings are considered to be related if the youth has resided with them for a continuous period of one year or longer. Information used in the scoring of this item can come from official records, self-report, collateral information, or other credible sources that identifies the nature of the offender's relationship to the victim. Only sex offenses that involve an official criminal sanction against the youth (i.e., arrest, charge, or conviction) are used in scoring this item. In the case of multiple sexual charges or convictions perpetrated against the same victim, the victim would be counted only once.

S6 Number and Gender of Victims

Objective
To determine the number of male victims against whom the youth has committed sex offenses.
Note: Count the total number of male and female victims reported in officially sanctioned sex offenses against the individual as defined in item S4. Information used in the scoring of this item can come from official records, self-reported officially sanctioned sex offenses, collateral information, or other credible sources.

Rate Overall Behavior **0 1 2 3**

0 Rating
The youth has one female victim and no male victims.

1 Rating
The youth has one male victim and no female victims.

2 Rating
The youth has two or more female victims OR the youth has one male victim and any number of female victims.

3 Rating
The youth has two or more male victims.

DYNAMIC FACTORS

Sexually Deviant Lifestyle Pattern (D1)

Objective

To determine the extent the youth's *overall* lifestyle, or a particular part of his or her lifestyle, is characterized by sexual deviancy.

Rate Overall Behavior **0 1 2 3**

Note: The definition of sexual deviance is not restricted to official convictions of sexual crimes. All sexually inappropriate behaviors, such as grooming or creating opportunities to gain access to potential victims, are considered as sexually deviant.

0 Rating

The youth does not have a sexually deviant lifestyle. This rating may be given to those who have a very marginal, unstable, or poorly adjusted existence, as long as the youth's lifestyle within the community is not sexually deviant.

1 Rating

Less positive than 0.

2 Rating

Less serious than 3.

3 Rating

Sexual deviance is an integral part of the youth's everyday life, which revolves around activities that contribute to his/her sexually deviant behavior. For example, these activities may include: sexually deviant thoughts, viewing child or violent pornography, or isolating from others, which has lead to sexually deviant behavior. The individual, by way of seemingly innocuous activities, may actively create and/or deliberately arrange opportunities to offend sexually. For example, babysitting, volunteering or obtaining a summer job to work with children or other potential victims, or frequenting social activities (e.g., parties) to gain access to potential victims. Thus, sexually deviant behavior, or activities that could clearly precipitate sexually deviant behavior, becomes integrated into a way of life for the youth who may derive sexual gratification, power and control, or excitement from the behavior.

Sexually Deviant Lifestyle Pattern (D1)
Stages of Change Pre- and Post-Treatment Rating

Objective

To determine the youth's stage of change for this factor at the start and end of treatment.

Maintenance Stage: If there was evidence of a sexually deviant lifestyle, he/she has abandoned the deviant attitudes, beliefs, and behaviors that sustain the lifestyle. The youth may have participated in appropriate treatment programs and demonstrated the relevant changes. Evidence of such change may be reflected in the identification, development and consistent use of relapse prevention strategies. The youth has effectively addressed and modified characteristics and factors that have facilitated sexual offending, and may be involved in healthy lifestyle practices (e.g., consensual relationship). These positive behaviors have been stable over an **extended period of time** and have withstood challenges across a variety of relevant situations, that is, high-risk situations related to the individual's problem behavior(s)**.**

Action Stage: The youth has many of the characteristics described in the maintenance stage and although these characteristics and replacement behaviors have been sufficiently stable over an extended period of time, they have not yet been adequately demonstrated across relevant high-risk situations.

Preparation Stage: The youth recognizes his/her problems and has made observable efforts at overcoming them. There are **appropriate behavior changes**, however these may be relatively recent and/or tend not to be consistent over time; lapses may be quite frequent.

<u>Contemplation or Precontemplation Stage</u>:
Contemplation Stage: The youth recognizes their problem areas and wants to overcome them but relevant behavioral changes are not yet observable.
Precontemplation Stage: The youth has no awareness of the problems associated with a sexually deviant lifestyle and demonstrates no intention to change in the near future. The individual may deny that there is a problem with his/her sexual behavior or externalize blame.

Sexual Compulsivity (D2)

Objective
To determine if the youth has a pattern of highly repetitive or compulsive sexual behavior, whether deviant or non-deviant. **Note:** *In rating this item, it is important for raters to consider sexual development norms for adolescents.*

Rate Overall Behavior 0 1 2 3

0 Rating
The youth has no history of highly repetitive or compulsive sexual behavior. The youth does not demonstrate an unusually high sex drive.

1 Rating
Less positive than 0.

2 Rating
Less serious than 3.

3 Rating

The youth has demonstrated repetitive deviant or non-deviant compulsive sexual activity. Elements of sexual compulsivity may include excessive masturbation, many incidences of indecent exposure, promiscuity or many one-night stands, frequent use of pornography or sexual fantasies. The extent and duration of offending behaviors may also provide evidence of sexual compulsivity. The youth may report having problems controlling a powerful sex drive. For example, a child molester may feel compelled to masturbate several times a day to fantasies of children, or may have accumulated a large collection of child pornography, which he/she has a strong urge to use frequently.

Sexual Compulsivity (D2)
Stages of Change Pre- and Post-Treatment Rating

Objective

To determine the youth's stage of change for this factor at the start and end of treatment.

Maintenance Stage: The youth actively controls his/her sexual compulsive behavior, and demonstrates the clear and consistent absence of deviant sexual activity. Other indications may include the use of control techniques as well as identifying and avoiding factors that culminate in sexually compulsive behavior. These positive behaviors have been stable over an extended period of time and have withstood challenges across a variety of relevant situations, that is, high-risk situations related to the individual's problem behavior(s)**.**

Action Stage: The youth has many of the characteristics described in the maintenance stage and although these characteristics have been sufficiently stable over an extended period of time, they have not yet been adequately demonstrated across relevant high-risk situations.

Preparation Stage: The youth recognizes his/her problems and has made observable efforts at overcoming them. There are appropriate behavior changes, however these may be relatively recent and/or tend not to be consistent over time; lapses may be quite frequent.

<u>Contemplation or Precontemplation Stage</u>:
Contemplation Stage: The youth recognizes their problem areas and wants to overcome them but relevant behavioral changes are not yet observable.
Precontemplation Stage: The youth has no awareness of the problems and demonstrates no intention to change in the near future. The individual may deny that there is a problem with sexually compulsive behavior or make superficial commitments to address his/her problem(s). The youth continues to demonstrate a pattern of compulsive sexual activity, and there is evidence of a high and poorly controlled sex drive.

Offence Planning (D3)

Objective

To determine whether the youth showed evidence of planning or victim grooming in the sexual offence(s).

Rate Overall Behavior 0 1 2 3

0 Rating

The youth's offence appears to be unplanned, impulsive, and opportunistic in nature. The youth did not initially contact or establish a relationship with the victim for the purposes of sexual offending. The youth's offence indicates coincidental contact with victims. There is no planning or victim grooming. For example, a peer-age rapist may have sexually assaulted a girl he found passed out at a party.

1 Rating
Less positive than 0.

2 Rating
Less serious than 3.

3 Rating
The youth clearly demonstrates planning or victim grooming in his/her offending. Evidence of this may involve a planned course of action prior to offending, such as selecting a particular location, a weapon, means of overcoming victim resistance, avoiding detection and plans to engage in specific sexual acts. Careful mental rehearsal of the offence is a form of planning. Evidence of grooming involves a period of becoming acquainted with, and building trust of potential victims for the purpose of the offence (e.g., playing games with children). Further, the offender may have a history of seeking out potential victims. For example, a child molester may have a history of placing himself in a position to secure easy access to children (e.g. babysitting), befriend them, and then offend against them.

Offence Planning (D3)
Stages of Change Pre- and Post-Treatment Rating

Objective
To determine the youth's stage of change for this factor at the start and end of treatment.

Maintenance Stage: If there has been evidence of offence planning or victim grooming, the youth no longer engages in such behaviors. Confirmation of such changes may be reflected in an awareness of high-risk situations and warning signs that could lead to relapse and adherence to a relapse prevention strategy. These positive behaviors have been stable over an extended period of time and have withstood challenges across a variety of relevant situations, that is, high-risk situations related to the youth's problem behavior(s).

Action Stage: The youth has many of the characteristics described in the maintenance stage and although these characteristics have been sufficiently stable over an extended period of time, they have not yet been adequately demonstrated across relevant high-risk situations.

Preparation Stage: The youth recognizes his/her problems and has made observable efforts at overcoming them. There are appropriate behavior changes, however these may be relatively recent and/or tend not to be consistent over time; lapses may be quite frequent.

<u>Contemplation or Precontemplation Stage</u>:

Contemplation Stage: The youth recognizes their problem areas and wants to overcome them but relevant behavioral changes are not yet observable.
Precontemplation Stage: The youth has no awareness of his/her problems, offence planning or associated problems and demonstrates no intention to change in the near future.

Callous and Unemotional Traits (D4)

Objective
To determine whether the youth appears to be callous and unemotional in his or her interactions with others.
Note: The purpose of this item is to assess the presence of callous/unemotional traits characteristics rather than the associated antisocial behaviors or conduct problems.

Rate Overall Behavior 0 1 2 3

0 Rating
The youth has very few or none of the characteristics described in the 3 Rating below.

1 Rating
Less positive than 0.

2 Rating
Less serious than 3.

3 Rating
A rating of 3 should be given to those whose *overall* personality profile is consistent with the following characteristics. The youth appears to be unconcerned about the feelings of others such as showing little concern about the reactions of family members to his or her antisocial activities. The youth does not seem to experience strong feelings such as being able to express or experience remorse for wrongdoing, instead the youth may give the impression of "play-acting" his or her emotions. Although the youth may be described as superficially charming, he or she may present as egocentric and grandiose and may have a tendency to manipulate others for personal gain.

The youth may have received a diagnosis or have been described as conducted disordered. *However, simply having a previous diagnosis of Conduct Disorder is not sufficient for a 3 Rating. Rate the item based on the extent to which the individual's overall characteristics match the characteristics described in the 3 Rating.*

Callous and Unemotional Traits (D4)
Stages of Change Pre- and Post-Treatment Rating

Objective
To determine the youth's stage of change for this factor at the start and end of treatment.

Maintenance Stage: The youth has significantly changed his/her behaviors that are characteristic of callous/unemotional traits. The youth may have gained a substantial amount of insight concerning how callous/unemotional traits have influenced his or her behaviors. However, gaining insight by itself does not warrant a rating of Maintenance Stage. The youth must be able to "walk the talk", that is, to demonstrate the appropriate behaviors over an extended period of time and in a variety of relevant situations. The youth has accepted responsibility for past sexual violence and has implemented alternative behavioral strategies to avoid sexual violence. Little or no incidences of lying, conning, or manipulating others have been evident. Increased empathy may be evident in the form of improved perspective taking skills, recognition of the impact of their behavior, or sincere expressions of remorse. This evidence must exist for an extended period of time. Within custodial settings, there should be indications of consistent cooperation with the staff and others. The youth should actively avoid highly criminalized individuals and high-risk situations as possible. It is important to distinguish between those who are simply attempting to look good for staff and decision-makers (e.g. behavioral improvements that are highly situationally dependent) as opposed to those who have made real and consistent changes. The youth should have also engaged in attainable goal setting and has made realistic plans for the community (e.g., a community safety plan that identifies prosocial supports and ambitions). These positive changes have been stable over an extended period of time and have withstood challenges across a variety of relevant situations, that is, high-risk situations related to the individual's problem behavior(s).

Action Stage: The youth has many of the characteristics described in the maintenance stage and although these characteristics have been sufficiently stable over an extended period of time, they have not yet been adequately demonstrated across relevant high-risk situations.

Preparation Stage: The youth recognizes his/her problems and has made observable efforts at overcoming them. There are appropriate behavior changes, however these may be relatively recent and/or tend not to be consistent over time; lapses may be quite frequent.

<u>Contemplation or Precontemplation Stage</u>:
Contemplation Stage: The youth recognizes their problem areas and wants to overcome them but relevant behavioral changes are not yet observable.
Precontemplation Stage: The youth has no awareness of the problems and demonstrates no intention to change in the near future. The individual is unaware of the relationship between his or her personality characteristics and sexual behavior and has made no effort to change. The individual may deny that there is a personality problem or externalize blame.

Cognitive Distortions (D5)

Objective
To determine if the youth uses cognitive distortions to justify or rationalize his or her sexually deviant behavior(s).

Rate Overall Behavior 0 1 2 3
Note: A distortion of perception that is symptomatic of the presence of a mental illness is not considered to be a cognitive distortion for the purpose of rating this item.

0 Rating
The youth does not demonstrate distorted cognitions. The youth does not minimize or downplay the severity of his or her actions, or try to justify, excuse, or rationalize sexually deviant behavior(s). The youth tends to consider alternative perspectives rationally and objectively within their developmental and intellectual capability.

1 Rating
Less positive than 0.
2 Rating
Less serious than 3.

3 Rating
The youth tends to maintain a distorted point of view regarding the offence and/or the victims. The cognitive distortions may include excuses, justifications or rationalizations, blaming and minimization of the seriousness of the offense. The youth's over-reliance on atypical past experiences may have seriously biased his/her interpretations of current events. The youth may be quick to discount alternative viewpoints as inaccurate or irrelevant and is generally reluctant to consider information or evidence that contradicts his or her viewpoints. The youth may frequently demonstrate rigid, "black and white", or stereotypical thinking patterns that make the modification of problematic beliefs and thoughts difficult. Cognitive distortions may include: 1) attitudes that support sexual contact with young children (e.g. "having sex with kids is a good way to teach them about sex"); 2) rape myths (e.g. "women secretly wish to be raped"); 3) excuses, justifications or rationalizations (e.g. "we were just playing a game"); 4) minimization of seriousness or harm of the offence (e.g. "she wasn't hurt"); 5) dehumanizing the victim (e.g. "she sleeps around and had it coming"); or 6) blaming the victim (e.g. "she came on to me"). *Note: Total or partial denial in and of itself may not warrant a rating of 3. In such cases, the rater will need to take into account the general tendencies of youth sex offenders to be defensive about their offences.*

Cognitive Distortions (D5)
Stages of Change Pre- and Post-Treatment Rating

Objective
To determine the youth's stage of change for this factor at the start and end of treatment.

Maintenance Stage: If cognitive distortion was a concern, the youth now has recognized and modified his/her distorted thinking patterns (e.g. minimization, justification, blaming, etc.) by using various cognitive restructuring techniques. The youth now shows an accurate perception of the link between sexual behaviors and their contributing factors and the understanding of what needs to be done for relapse prevention. These positive changes have been stable over an extended period of time and have withstood challenges across a variety of relevant situations, that is, high-risk situations related to the youth's problem behavior(s).

Action Stage: The youth has many of the characteristics described in the maintenance stage and although these characteristics have been sufficiently stable over an extended period of time, they have not yet been adequately demonstrated across relevant high-risk situations.

Preparation Stage: The youth recognizes his/her problem areas and has made efforts to modify cognitive distortions. There are appropriate changes, however these may be relatively recent and/or tend not to be consistent over time; lapses may be quite frequent.

Contemplation or Precontemplation Stage:
Contemplation Stage: The youth recognizes their problem areas and wants to overcome them but relevant behavioral changes are not yet observable.
Precontemplation Stage: The youth has no awareness of the problems and demonstrates no intention to change in the near future. The youth has no awareness of his or her cognitive distortions. The youth tends to readily reject alternative perspectives without evaluating them. The youth may refuse to do perception checks, and maintains distorted points of view.

Interpersonal Aggression (D6)

Objective
To determine if the youth uses aggressive behaviors (sexual or nonsexual) extensively or consistently in interpersonal interactions. For the purpose of rating this item, aggression directed against objects alone (e.g. punching walls, breaking things, trashing rooms, etc.) could be considered as interpersonally aggressive.

Rate Overall Behavior 0 1 2 3

0 Rating
*On the whole***,** the youth does not use aggressive behaviors habitually or extensively in interpersonal interactions. Aggressive behaviors include verbal aggression (e.g., swearing, shouting, etc.), physical aggression (e.g., hitting, intimidation, threatening gestures, etc.) and passive-aggressiveness (e.g. silent treatment, withdrawal etc.). The emphasis should be placed on the habitual or extensive use of aggressive behaviors in interpersonal relationships. Thus, isolated or mildly aggressive episodes do not constitute habitual or extensive use and should be given a rating of 1 or 2 accordingly.

1 Rating
Less positive than 0.

2 Rating
Less serious than 3.

3 Rating
There is evidence that the youth habitually or extensively uses aggressive behaviors in his or her interpersonal interactions. The aggressive behaviors may, but not necessarily, result in physical violence. As long as aggressive behaviors are a major and consistent component of the individual's interpersonal interaction style, a rating of 3 is given. Persistent stalking behavior, **pimping**, or engaging in violent fantasies are considered to be interpersonal aggression.

Interpersonal Aggression (D6)
Stages of Change Pre- and Post-Treatment Rating

Objective

To determine the youth's stage of change for this factor at the start and end of treatment.

Maintenance Stage: The youth has consistently relinquished the use of aggression (i.e., verbal aggression, passive-aggressiveness, and/or physical aggression), including aggressive intimidation tactics, to meet his or her needs, including sexual needs. The youth demonstrates a prosocial interpersonal style. Alternative strategies are consistently used to avoid resorting to aggressive behaviors. These positive changes have been stable over an extended period of time and have withstood challenges across a variety of relevant situations, that is, high-risk situations related to the individual's problem behavior(s).

Action Stage: The youth has many of the characteristics described in the maintenance stage and although these characteristics have been sufficiently stable over an extended period of time, they have not yet been adequately demonstrated across relevant high-risk situations.

Preparation Stage: The youth recognizes his/her problems and has made observable efforts at overcoming them. There are appropriate behavior changes, however these may be relatively recent and/or tend not to be consistent over time; lapses may be quite frequent.

Contemplation or Precontemplation Stage:
Contemplation Stage: The youth recognizes their problem areas and wants to overcome them but relevant behavioral changes are not yet observable.
Precontemplation Stage: The youth has no awareness of the problems and demonstrates no intention to change in the near future. The individual is unaware of his or her use of interpersonal aggression. The individual is resistant to the development of alternative interpersonal strategies to avoid interpersonal aggressive behavior.

Emotional Control (D7)

Objective
To determine if the youth's tendency to undercontrol *or* overcontrol emotions has culminated in sexual offending. Undercontrol is defined as not being able to control appropriately the rapid change in the intensity of feelings, for example, "flying off the handle," getting frustrated and angry very quickly. Being overcontrolled is typical of those who tend to "bottle-up their feelings" only to explode into sexual aggression or violence later. The focus of this item is to assess *emotions* as opposed to attitudes or behaviors.

Rate Overall Behavior 0 1 2 3

0 Rating
*Overall***,** there is no relationship between the inability to regulate positive or negative emotions (see 3 Rating below) and sexual violence; no history of emotional responses that typically have resulted in sexual behavior is indicated. There is no evidence of emotional outbursts, explosive rage, serious depressive episodes, or overcontrolling feelings, which culminated in sexual offending.

1 Rating
Less positive than 0.

2 Rating
Less serious than 3.

3 Rating
A consistent relationship between sexual offending and the inability to control emotions is indicated. Negative emotional state(s) such as feelings of jealousy, loneliness, humiliation, rejection, inadequacy, or anger, or positive emotional states such as feelings of excitement or anticipation are associated with sexual offending. For example, a youth may report experiencing intense feelings of loneliness and rejection prior to committing a sexual offence and was unable or unwilling to do anything about such feelings. Alternatively, a youth may experience feelings of excitement just prior to exposing him or herself. The youth may also tend to "bottle-up" his or her feelings, brood, and/or act in a passive, submissive way, only to explode at a later time. These behaviors, which may be triggered by very specific events (e.g., following peer or family conflict), do not have to result in criminal charges or convictions to warrant a 3 rating.

Emotional Control (D7)
Stages of Change Pre- and Post-Treatment Rating

Objective
To determine the youth's stage of change for this factor at the start and end of treatment.

Maintenance Stage: The youth does not resort to over- or under-controlling his or her emotions and employs alternative strategies to avoid the negative consequences of the lack of emotional control. These positive changes have been stable over an extended period of time and have withstood challenges across a variety of relevant situations, that is, high-risk situations related to the individual's problem behavior(s).

Action Stage: The youth has many of the characteristics described in the maintenance stage and although these characteristics have been sufficiently stable over an extended period of time, they have not yet been adequately demonstrated across relevant high-risk situations.

Preparation Stage: The youth recognizes his/her problems and has made observable efforts at overcoming them. There are appropriate behavior changes, however these may be relatively recent and/or tend not to be consistent over time; lapses may be quite frequent.

<u>Contemplation or Precontemplation Stage</u>:
Contemplation Stage: The youth recognizes their problem areas and wants to overcome them but relevant behavioral changes are not yet observable.
Precontemplation Stage: The youth has no awareness of the problems and demonstrates no intention to change in the near future. The individual demonstrates no awareness of the link between the inability to manage emotions and sexual violence. The individual may attempt to justify or externalize the causes of poor emotional control.

Insight (D8)

Objective

To determine the extent to which the youth understands the factors that precipitate his/her past sexual offences. Understanding is the first step to change. Therefore, the focus of this item is on the understanding of the precipitating factors of sexually deviant behavior and *not* necessarily on the translation of the understanding into behavior changes.

Rate Overall Behavior 0 1 2 3

0 Rating
The youth demonstrates a good understanding of what precipitated past sexual offending as evidenced by the ability to identify relevant factors that precipitated and maintained his or her sexual offending; a willingness to disclose, examine, and accept responsibility for sexual offending; and a willingness to address these areas. The individual does not attempt to externalize blame or justify his or her offending behaviors. For mentally ill or developmentally delayed youth, the rater should assess how well the individual understands the precipitating factors that culminated in sexual violence within the limits of his or her cognitive or developmental ability.

1 Rating
Less positive than 0.

2 Rating
Less serious than 3.

3 Rating
The youth shows no insight into the precipitating factors of sexual offending as evidenced by the denial of responsibility, blaming others or the system, avoiding discussing details of the offense, and/or refusing to address sexual offending through recommended interventions. A rating of 3 is given if the youth claims to have no memory of the offense and declines to use other relevant life situations or examples to understand the precipitants of sexual offending. If the youth maintains that the sexual offense is an isolated event therefore it is not possible to understand what precipitated the offence, a rating of 3 is given.

Insight (D8)
Stages of Change Pre- and Post-Treatment Rating

Objective
To determine the youth's stage of change for this factor at the start and end of treatment.

Maintenance Stage: The youth now has good insight into the cause of past sexual offending. The youth can identify specific factors (e.g., thoughts, feelings, behaviors, triggers) associated with sexual offending, recognizes high-risk areas, and does not attempt to justify the offense(s). These positive changes have been stable over an extended period of time and have withstood challenges across a variety of relevant situations, that is, high-risk situations related to the individual's problem behavior(s).

Action Stage: The youth has many of the characteristics described in the maintenance stage and although these characteristics have been sufficiently stable over an extended period of time, they have not yet been adequately demonstrated across relevant high-risk situations.

Preparation Stage: The youth recognizes his/her problem areas and has begun to identify specific factors (e.g., thoughts, feelings, behaviors, triggers) associated with sexual violence. There are appropriate changes, however these may be relatively recent and/or tend not to be consistent over time; lapses may be quite frequent (e.g., attempting to justify or minimize the use of sexual violence or aggression).

<u>Contemplation or Precontemplation Stage</u>:

Contemplation Stage: The youth is aware of his/her problem areas and may have begun to identify specific thoughts, feelings, behaviors, and triggers associated with sexual offending but relevant behavioral changes are not yet observable.

Precontemplation Stage: The youth has no insight or awareness of the problems and demonstrates no intention to change or try to gain in the near future. The youth is unable to identify the relationship between thoughts, feelings, and behaviors that have culminated in sexual offending. Rather than accepting responsibility for his or her actions, the individual has a tendency to justify or minimize sexual offending behaviors.

Substance Abuse (D9)

Objective

To determine the extent to which substance abuse is linked to sexual offending.

Note: Substance is defined as any material, usually a drug (e.g., alcohol or other substance) that is used generally for mind-altering purposes.

Rate Overall Behavior 0 1 2 3

0 Rating

The youth does not have a substance abuse or substance related problem linked to sexual offending. The individual may drink socially and occasionally, may have become intoxicated. He/she may have experimented with or even use drugs quite frequently, however, substance use has not been linked, directly or indirectly, to sexual offending behavior.

1 Rating

Less positive than 0.

2 Rating

Less serious than 3.

3 Rating

A substance abuse or substance related problem has been linked to sexual offending. There may be evidence of a history of substance abuse problems that directly precipitated or culminated in sexual offending behaviors. For instance, the youth may frequent drinking parties, or venues involving the use of other substances, and engage in sexual offending behaviors while intoxicated (e.g., sexually assaulting a female who is passed out). Under the influence of alcohol and/or drugs, may show significant behavioral changes that have led to sexual offending.

Substance Abuse (D9)
Stages of Change Pre- and Post-Treatment Rating

Objective

To determine the youth's stage of change for this factor at the start and end of treatment.

Maintenance Stage: There is consistent and significant evidence to indicate that the link between sexual offending behaviors and substance abuse has been broken. Simply participating in programs for substance abuse is not sufficient. A genuine commitment to abstinence should include: no illegal drug use, repeated negative drug testing, consistent and motivated participation in substance abuse programs, exploration of the reasons for substance abuse, seriously abiding by relapse prevention plans (including the consistent use of alternative coping/risk reduction strategies), enlisting prosocial and anti-substance abuse resources in custody and/or in the community, and distancing oneself from the substance abuse subculture. These positive changes have been stable over an extended period of time and have withstood challenges across a variety of relevant situations, that is, high-risk situations related to the individual's problem behavior(s).

Action Stage: The youth has many of the characteristics described in the maintenance stage and although these characteristics have been sufficiently stable over an extended period of time, they have not yet been adequately demonstrated across relevant high-risk situations.

Preparation Stage: The youth recognizes his/her problems and has made observable efforts at overcoming them. There are appropriate behavior changes, however these may be relatively recent and/or tend not to be consistent over time; lapses may be quite frequent.

<u>Contemplation or Precontemplation Stage</u>:
Contemplation Stage: The youth recognizes their problem areas and wants to overcome them but relevant behavioral changes are not yet observable.
Precontemplation Stage: The youth demonstrates no awareness of the relationship between substance use and sexual offending or the need to address substance abuse problems in the near future. The youth may make superficial claims about wanting to join substance abuse programs on release, or comment about the uselessness of substance abuse programs. If the youth does attend such programs, participation may be marginal at best. There may be documented incidents or strong suspicions for the procurement, distribution, and use of illegal substances and/or evidence of close associations with the substance use sub-culture in the youth's immediate setting.

Community Support (D10)

Objective

To determine if community support is adequate to meet the needs of the youth.

Rate Overall Behavior 0 1 2 3

0 Rating

Positive community support in the form of stable accommodation, employment opportunities, relocation, positive family support, prosocial psychological support, counseling, family visits, verified admission to a treatment or supervised day program, vocational training, educational training etc., is available to the youth, and the youth displays a genuine willingness and desire to utilize such support. The youth's family (or surrogate family equivalent) is a source of positive, prosocial, and appropriate emotional support and constructively assist in the prevention of further sexual offending. The more diverse and comprehensive the support system, the more beneficial it will be to the youth. The support system has to be legitimate, prosocial, and reasonably stable.

1 Rating
Less positive than 0.

2 Rating
Less serious than 3.

3 Rating
Positive community support (as described above) is not available or is totally inadequate to meet the needs of the youth. The youth has not actively participated in identifying or developing community support. Though available, the youth refuses to utilize positive community support or to acknowledge such support is necessary to reduce his or her likelihood to sexually reoffend. The family support system (or equivalent) seems to enable the youth and undermine intervention, supervision, or risk management efforts.

Community Support (D10)
Stages of Change Pre- and Post-Treatment Rating

Objective
To determine the youth's stage of change for this factor at the start and end of treatment.

Maintenance Stage: The youth acknowledges the importance of community support, has quality community support available, and utilizes it when available. In addition, the youth has developed realistic back-up strategies to self manage should community support be temporarily interrupted. Additional resources, such as family therapy, may have been utilized to repair or strengthen support systems that were damaged or undermined by the youth's sexual offending. These positive changes have been stable over an extended period of time and have withstood challenges across a variety of relevant situations, that is, high-risk situations related to the individual's problem behavior(s).

Action Stage: The youth has many of the characteristics described in the maintenance stage and although these characteristics have been sufficiently stable over an extended period of time, they have not yet been adequately demonstrated across relevant high-risk situations.

Preparation Stage: The youth recognizes his/her problems and has made observable efforts at overcoming them. There are appropriate behavior changes, however these may be relatively recent and/or tend not to be consistent over time; lapses may be quite frequent.

Contemplation or Precontemplation Stage:
Contemplation Stage: The youth recognizes their problem areas and wants to overcome them but relevant behavioral changes are not yet observable.
Precontemplation Stage: The youth has no awareness of the problems and demonstrates no intention to change in the near future. The individual does not recognize the importance or need for community support to reduce the risk of sexual offending. The youth may deny that he or she has a problem or requires community support or the youth is reluctant to develop community support.

Return to High-Risk Situations (D11)

Objective
To determine the extent to which the youth's previous or anticipated returns to high-risk situations in the community are related to sexual offending.

Rate Overall Behavior 0 1 2 3

0 Rating
The youth does not wish to return to identified high-risk situations that will bring him or her in close contact with factors linked to sexual offending. Should the return to high-risk situations be inevitable, the youth has developed comprehensive and realistic alternative **safety plans** or strategies to avoid or appropriately manage risk factors in these situations.

1 Rating
Less positive than 0.

2 Rating
Less serious than 3.

3 Rating
The youth is planning to return to or has to return to (because of a lack of community-based options) a situation that has been closely linked to sexual offending (e.g., residing with a family member who he/she victimized in the past). In the latter case, the youth has not developed strategies to avoid or adequately manage risk factors within such high-risk situations. The youth may have requested to return to a low-risk situation but characteristically, quickly returns to a high-risk situation. A score of 3 is given if the youth has requested a similar release, unless a comprehensive and detailed safety plan has been developed and there are genuine indicants to suggest adherence to the plan.

Return to High-Risk Situations (D11)
Stages of Change Pre- and Post-Treatment Rating

Objective
To determine the youth's stage of change for this factor at the start and end of treatment.

Maintenance Stage: The youth recognizes that successful life in the community is dependent upon avoiding high-risk situations and has developed strategies and skills to avoid them. A

comprehensive and realistic safety plan has been developed, shared with family or major social supports, and adhered to over an extended period of time. These positive changes have been stable over an extended period of time and have withstood challenges across a variety of relevant situations, that is, high-risk situations related to the youth's problem behavior(s).

Action Stage: The youth has many of the characteristics described in the maintenance stage and although these characteristics have been sufficiently stable over an extended period of time, they have not yet been adequately demonstrated across relevant high-risk situations.

Preparation Stage: The youth recognizes his/her problems and has made observable efforts at overcoming them. There are appropriate behavior changes, however these may be relatively recent and/or tend not to be consistent over time; lapses may be quite frequent.

Contemplation or Precontemplation Stage:
Contemplation Stage: The youth recognizes their problem areas and wants to overcome them but relevant behavioral changes are not yet observable.
Precontemplation Stage: The youth has no awareness of the problems and demonstrates no intention to change in the near future. The youth has no recognition of high-risk situations or of the need to avoid them. The youth may attempt to justify returning to a high-risk situation(s) and may even actively and deliberately expose themselves to them.

Sexual Offending Cycle (D12)

Objective
To determine if the youth's sexual offending tends to be repeatedly precipitated by similar circumstances that have often resulted in similar outcomes, that is, whether there is a cycle of sexual offending.

Rate Overall Behavior 0 1 2 3

0 Rating
There is no history of sexual offending or if there is such a history, the incidents were not precipitated by similar circumstances. It is likely that the sexual offending is an isolated incident or it is uncharacteristic of the individual's typical behavior.

1 Rating
Less positive than 0.

2 Rating
Less serious than 3.

3 Rating
There is a fairly obvious **sexual offending cycle** associated with the inappropriate sexual behavior. Sexual offending is typically linked to identifiable situational (e.g., babysitting), interpersonal (e.g., rejection, family conflict), or personal (e.g., boredom, anger) precipitating factors or triggers. If a relapse into substance abuse characteristically leads to sexual offending, a score of 3 should be given.

For the purpose of rating this item, a highly versatile young offender, that is, a youth who has committed multiple sexual offences under different situations (e.g. different victim groups: younger children and peer age victims, or with different precipitating factors), also should be rated 3.

Sexual Offending Cycle (D12)
Stages of Change Pre- and Post-Treatment Rating

Objective
To determine the youth's stage of change for this factor at the start and end of treatment.

Maintenance Stage: If there was evidence of a sexual offending cycle, the individual demonstrates awareness of the factors that precipitated past sexual offending, and has developed relapse prevention strategies to prevent the cycle of sexual offending from occurring. These positive changes have been stable over an extended period of time and have withstood challenges across a variety of relevant situations, that is, high-risk situations related to the individual's problem behavior(s).

Action Stage: The youth has many of the characteristics described in the maintenance stage and although these characteristics have been sufficiently stable over an extended period of time, they have not yet been adequately demonstrated across relevant high-risk situations.

Preparation Stage: The youth recognizes his/her problems and has made observable efforts at overcoming them. There are appropriate behavior changes, however these may be relatively recent and/or tend not to be consistent over time; lapses may be quite frequent.

<u>Contemplation or Precontemplation Stage</u>:
Contemplation Stage: The youth recognizes their problem areas and wants to overcome them but relevant behavioral changes are not yet observable.
Precontemplation Stage: The youth has no awareness of or insight into of the repeat occurrence of his/her sexual offending and demonstrates no intention to change in the near future. The youth does not recognize triggers that precipitate sexual offending. The youth may deny that cyclical events typically lead to sexual offending.

Impulsivity (D13)

Objective
To determine if the youth *typically* reacts impulsively to situations or provocations.

Rate Overall Behavior 0 1 2 3

0 Rating
Impulsivity is the tendency to do or say things "on the spur of the moment" or to "act now and think later." The youth does not *typically* respond impulsively. The youth generally considers the

consequences associated with his or her actions before responding. The youth's overall behavior should be considered, not just behavior associated with sexual offending.

1 Rating
Less positive than 0.

2 Rating
Less serious than 3.

3 Rating
The youth typically reacts impulsively in a verbal and/or physical manner. Behaviors are often associated with "spur of the moment" occurrences in which the youth reacts without pausing to consider the costs or consequences of negative behavior. The youth tends not to consider relevant information before reacting. Within a custody setting, the youth may quickly react to provocations. Impulsivity need not necessarily result in physical or verbal aggression in order to give the individual a score of 3. As long as impulsivity is characteristic of the youth's mode of behavior, a score of 3 is warranted.

Impulsivity (D13)
Stages of Change Pre- and Post-Treatment Rating

Objective
To determine the youth's stage of change for this factor at the start and end of treatment.

Maintenance Stage: If the youth was impulsive, he or she now consistently demonstrates the ability to consider consequences prior to reacting and recognizes the association between impulsive behaviors and negative consequences. These positive changes have been stable over an extended period of time and have withstood challenges across a variety of relevant situations, that is, high-risk situations related to the individual's problem behavior(s).

Action Stage: The youth has many of the characteristics described in the maintenance stage and although these characteristics have been sufficiently stable over an extended period of time, they have not yet been adequately demonstrated across relevant high-risk situations.

Preparation Stage: The youth recognizes his/her problems and has made observable efforts at overcoming them. There are appropriate behavior changes, however these may be relatively recent and/or tend not to be consistent over time; lapses may be quite frequent.

<u>Contemplation or Precontemplation Stage</u>:
Contemplation Stage: The youth recognizes their problem areas and wants to overcome them but relevant behavioral changes are not yet observable.
Precontemplation Stage: The youth has no awareness of the problems and demonstrates no intention to change in the near future. The youth is unaware of the tendency to react impulsively or the relationship between impulsive behavior and negative outcomes. The youth is not able to control impulsive behaviors.

Noncompliance with Community Supervision (D14)

Objective
To determine the youth's willingness to comply with community supervision or involvement in relevant gradual release planning.

Rate Overall Behavior 0 1 2 3

0 Rating
There is consistent and genuine willingness to comply with community supervision, for example, keeping appointments, checking in and maintaining meaningful contact with supervisors, and abiding by supervision conditions (e.g., curfew, approved residence). Supervision likely is viewed by the youth as a positive resource and support rather than as an inconvenience or unnecessary intrusion. If the youth has never been released under supervision, the youth's compliance can be assessed by their willingness to work with institutional staff and community youth workers who assist in the youth's release planning. Willingness could be demonstrated by the individual taking initiative and exerting consistent effort in formulating and/or developing appropriate release or transfer planning.

1 Rating
Less positive than 0.

2 Rating
Less serious than 3.

3 Rating
There is consistent noncompliant behavior with respect to the community supervision. The youth may reject or attempt to undermine the directions of community supervision by subverting or circumventing them. The youth may have been placed in custody due to a failure to abide by community conditions, and may have breached an undertaking, probation, or deferred custody. If in custody, the youth does not see the need to work with those who could assist him/her in developing release planning or the youth may be resistant to the release recommendations of institutional staff.

Noncompliance with Community Supervision (D14)
Stages of Change Pre- and Post-Treatment Rating

Objective
To determine the youth's stage of change for this factor at the start and end of treatment.

Maintenance Stage: The youth is aware of the need to comply with the conditions of community supervision and acknowledges that noncompliance will increase the risk of further criminal behavior, including sexual offending. For example, the youth may seek to work closely with case workers or parole officers in release or transfer planning and also in securing positive community support and abide by other conditions intended to decrease risk of offending. The youth may have developed a comprehensive and realistic release plan that incorporates community supervision. These positive changes have been stable over an extended period of time and have withstood challenges across a variety of relevant situations, that is, high-risk situations related to the individual's problem behavior(s).

Action Stage: The youth has many of the characteristics described in the maintenance stage and although these characteristics have been sufficiently stable over an extended period of time, they have not yet been adequately demonstrated across relevant high-risk situations.

Preparation Stage: The youth recognizes his/her problems and has made observable efforts at overcoming them. There are appropriate behavior changes, however these may be relatively recent and/or tend not to be consistent over time; lapses may be quite frequent.

Contemplation or Precontemplation Stage:
Contemplation Stage: The youth recognizes their problem areas and wants to overcome them but relevant behavioral changes are not yet observable.
Precontemplation Stage: The youth has no awareness of the problems and demonstrates no intention to change in the near future. The youth has no awareness of the importance to comply with community supervision. The youth may claim that community supervision is unnecessary or irrelevant. Within custody, the youth may be resistant to comply with staff recommendations for future community programming and monitoring.

Treatment Noncompliance (D15)

Objective
To determine the youth's attitude and commitment to sex offender treatment **Note:** If the youth has not previously attended or is just beginning a sex offender treatment program, this item may be omitted due to insufficient information. Re-rate the item when the information is available.

Rate Overall Behavior 0 1 2 3

0 Rating
The youth has successfully completed previous sex offender treatment program(s), or has demonstrated close adherence to the therapeutic process in a current program. The youth appears to be committed to sex offender treatment and motivated for personal improvement and change. For example, the youth regularly attends treatment groups, completes homework assignments, has a positive attitude toward treatment, and is alert and attentive in group and engaged in the treatment process.

1 Rating
Less positive than 0.

2 Rating
Less serious than 3.

3 Rating
The youth has been discharged from one or more previous sex offender treatment programs and demonstrated clear treatment non-compliance or the youth refuses to attend sex offender treatment. While in treatment, the youth may participate minimally (e.g., frequent "I don't know"), refuse to complete therapeutic work, and demonstrate little motivation for change. The youth may maintain that sex offender treatment is not relevant despite sexual offending history.

Treatment Non-compliance (D15)
Stages of Change Pre- and Post-Treatment Rating

Objective

To determine the youth's stage of change for this factor at the start and end of treatment.

Maintenance Stage: If the youth is deemed to require sex offender treatment, he/she has successfully completed such program(s), has consistently shown commitment to treatment and motivation for change. These positive behaviors have been stable over an extended period of time and have withstood challenges across a variety of relevant situations, that is, high-risk situations related to the individual's problem behavior(s)**.**

Action Stage: The youth has many of the characteristics described in the maintenance stage and although these characteristics have been sufficiently stable over an extended period of time, they have not yet been adequately demonstrated across relevant high-risk situations.

Preparation Stage: The youth recognizes his/her problems and has made observable efforts at overcoming them. There are appropriate behavior changes, however these may be relatively recent and/or tend not to be consistent over time; lapses may be quite frequent.

<u>Contemplation or Precontemplation Stage</u>:

Contemplation Stage: The youth recognizes their problem areas and wants to overcome them but relevant behavioral changes are not yet observable.

Precontemplation Stage: The youth has no awareness of the problems and demonstrates no intention to change in the near future. The youth has no awareness of the importance of compliance with treatment or claims that treatment is unnecessary or irrelevant. The youth may be resistant to comply with staff recommendations for sex offender programming or exhibits minimal and/or superficial participation.

Deviant Sexual Interests (D16)

Objective

To determine if the youth has a consistent sexual preference for deviant, rather than non-deviant, sexual stimuli.

Rate Overall Behavior 0 1 2 3

0 Rating

The youth has not shown a pattern of deviant sexual preference as indicated under rating 3.

1 Rating

Less positive than 0.

2 Rating

Less serious than 3.

3 Rating

The youth shows a clear pattern of sexual interest or preferences, including thoughts and fantasies, for deviant sexual stimuli. Deviant sexual stimuli include, but are not limited to, very young children, age inappropriate partners, coercive sex, or sex involving humiliation or violence. Evidence of the above may come from assessments of deviant arousal, self-report accounts, official offence information (e.g. police report), or other reliable sources of information.

Deviant Sexual Interests (D16)
Stages of Change Pre- and Post-Treatment Rating

Objective

To determine the youth's stage of change for this factor at the start and end of treatment.

Maintenance Stage: If there was evidence of deviant sexual interests, the youth is now able to effectively suppress or control preference for deviant sexual stimuli. Evidence of this includes the identification and means of reliably mitigating external and internal risk factors and high-risk situations that contribute to a sexually deviant preference and associated behaviors such as adherence to relevant relapse prevention strategies. These positive behaviors have been stable over an extended period of time and have withstood challenges across a variety of relevant situations, that is, high-risk situations related to the individual's problem behavior(s)**.**

Action Stage: The youth has many of the characteristics described in the maintenance stage and although these characteristics have been sufficiently stable over an extended period of time, they have not yet been adequately demonstrated across relevant high-risk situations.

Preparation Stage: The youth recognizes his/her problems and has made observable efforts at overcoming them. There are appropriate behavior changes, however these may be relatively recent and/or tend not to be consistent over time; lapses may be quite frequent.

Contemplation or Precontemplation Stage:

Contemplation Stage: The youth recognizes their problem areas and wants to overcome them but relevant behavioral changes are not yet observable.

Precontemplation Stage: The youth has no awareness of deviant sexual preference and demonstrates no intention to change in the near future.

Intimacy Skills Deficits (D17)

Objective

Objective of the item is to assess the individual's capacity in forming and maintaining intimate relationships. **Note:** *The rater will need to take into account realistic developmental expectations for youths at different periods of adolescence (e.g., early versus late) in acquiring intimacy skills and in forming and maintaining relationships (e.g., dating versus marriage).*

Rate Overall Behavior 0 1 2 3

0 Rating

There is evidence that the youth is able to form and maintain social and/or intimate relationships with age appropriate significant others. An intimate relationship is defined as a close physical and/or emotional relationship with a significant other that usually occurs within the context of a romantic relationship. The youth does not show signs of social anxiety, or a tendency to avoid involvement in social or dating relationships, as may be indicated by the ability to maintain a close friendship or dating relationship. The lack of stability in relationships may not necessarily be an indication of intimacy skills deficits unless it can be shown that the instability is the direct or indirect result of such deficits. For example, relationship instability due to poor money management is not indicative of an intimacy deficit. Heterosexual and homosexual relationships in the community are considered to be equivalent for the purpose of rating this factor.

1 Rating
Less positive than 0.

2 Rating
Less serious than 3.

3 Rating
The youth has substantial difficulty forming and maintaining social or intimate relationships as indicated in the 0 Rating. This may be evidenced by expressions of social anxiety associating with peers younger than him/herself, or shying away from opportunities to engage in such relationships, and, as a result, may be quite alone and/or socially isolated and this may lead to feelings of loneliness.

Intimacy Skills Deficits (D17)
Stages of Change Pre- and Post-Treatment Rating

Objective
To determine the youth's stage of change for this factor at the start and end of treatment.

Maintenance Stage: If there was evidence of an intimacy skills deficit, the youth is now able to engage in and form close social or physical and emotional relationships with significant others without feeling intimidated, fearful or anxious. The individual may welcome such experiences and find them rewarding.

Action Stage: The youth has many of the characteristics described in the maintenance stage and although these characteristics have been sufficiently stable over an extended period of time, they have not yet been adequately demonstrated across relevant high-risk situations.

Preparation Stage: The youth recognizes his/her problems and has made observable efforts at overcoming them. There are appropriate behavior changes, however these may be relatively recent and/or tend not to be consistent over time; lapses may be quite frequent.

<u>Contemplation or Precontemplation Stage</u>:
Contemplation Stage: The youth recognizes their problem areas and wants to overcome them but relevant behavioral changes are not yet observable.

Precontemplation Stage: The youth has no awareness of the problems and demonstrates no intention to change in the near future. The youth does not see intimacy skills deficits as an area of problem or concern or its possible connection with offending behaviors.

EXPERIMENTAL RISK FACTORS

E1. Poor Parent-Child Interaction

Objective

To determine whether the ongoing interaction style between the youth and his or her parents/guardians is poor (e.g., non-supportive).

Rate Overall Behavior 0 1 2 3

0 Rating

There is good evidence of a positive relationship between parents or parental figures and the youth. There is consistent and appropriate supervision and discipline, and there is no evidence of abuse or neglect. The youth and parental figures spend time together engaged in positive and constructive enjoyable activities and sharing feelings and ideas. Communications between the youth and parental figures are frank and open. The relationship is one of mutual respect and support. The youth appears to be strongly and positively connected to family members and other caretakers.

1 Rating

Less positive than 0.

2 Rating

Less serious than 3.

3 Rating

There is often much strain and conflict and little emotional closeness between the youth and family members. In extreme cases, this may lead to parental neglect and abuse. Parental supervision and discipline are either nonexistent or extremely harsh and punitive. Family communication may degenerate into aggressive verbal or physical exchanges. The youth may not have strong connections to family members and may be openly disrespectful and non-adherent to parental boundaries and restrictions. The youth may perceive caretakers as unsupportive. In extreme cases, youths may choose to isolate themselves rather than interact with caretakers.

E2. Family Stress

Objective

To determine whether there is a high level of stress within the youth's home environment, excluding those stressors that are unique to the parent–child relationship as described in factor D15.

Rate Overall Behavior 0 1 2 3

0 Rating
The youth's home environment is generally quite stable. Family stress is dealt with quickly and positively.

1 Rating
Less positive than 0.

2 Rating
Less serious than 3.

3 Rating
The youth's home environment is very unstable. The youth may have experienced multiple changes. There is a constant high level of stress that may result from a number of sources (e.g., presence of many siblings, parental divorce, parental custody disputes, living in a single-parent home, repeated moves, financial strain, repeated exposure to severe conflict between parents, and/or other family members).

E3. Community Disorganization

Objective
To determine whether the community in which the youth lives is disorganized.

Rate Overall Behavior 0 1 2 3

0 Rating
The youth resides in a stable and organized neighbourhood. For example, there are no significant activities that de-stabilize the community such as extensive drug dealing, prostitution, crime, gang domination, extreme poverty, etc.

1 Rating
Less positive than 0.

2 Rating
Less serious than 3.

3 Rating
The youth resides in a neighbourhood that has no cohesion; for example, neighbours are estranged from one another and there are destabilizing forces as indicated in the 0 rating.

Appendix C

Estimate of Risk of Adolescent Sexual Offense Recidivism (ERASOR) Version 2.0

A. Sexual Interests, Attitudes, and Behaviours	B. Historical Sexual Assaults
1. Deviant sexual interests (younger children, violence, or both) 2. Obsessive sexual interests/Preoccupation with sexual thoughts 3. Attitudes supportive of sexual offending 4. Unwillingness to alter deviant sexual interests/attitudes	5. Ever sexually assaulted 2 or more victims 6. Ever sexually assaulted same victim 2 or more times 7. Prior adult sanctions for sexual assault(s) 8. Threats of, or use of, violence/weapons during sexual offense 9. Ever sexually assaulted a child 10. Ever sexually assaulted a stranger 11. Indiscriminate choice of victims 12. Ever sexually assaulted a male victim *(male offenders only)* 13. Diverse sexual-assault behaviours
C. Psychosocial Functioning	D. Family/Environmental Functioning
14. Antisocial interpersonal orientation 15. Lack of intimate peer relationships/Social isolation 16. Negative peer associations and influences 17. Interpersonal aggression 18. Recent escalation in anger or negative affect 19. Poor self-regulation of affect and behaviour (Impulsivity)	20. High-stress family environment 21. Problematic parent-offender relationships/Parental rejection 22. Parent(s) not supporting sexual-offense-specific assessment/treatment 23. Environment supporting opportunities to reoffend sexually
E. Treatment	

24. No development or practice of realistic prevention plans/strategies 25. Incomplete sexual-offense-specific treatment
F. Other Factor

Appendix D

Juvenile Sex Offender Assessment Protocol-II (J-SOAP-II)

I. Sexual Drive/Preoccupation Scale	II. Impulsive, Antisocial Behavior Scale
1. Prior legally charged sex offenses 2. Number of sexual abuse victims 3. Male child victim 4. Duration of sex offense history 5. Degree of planning in sexual offense(s) 6. Sexualized aggression 7. Sexual drive and preoccupation 8. Sexual victimization history	9. Caregiver consistency 10. Pervasive anger 11. School behavior problems 12. History of conduct disorder 13. Juvenile antisocial behavior 14. Ever charged/Arrested before age 16 15. Multiple types of offenses 16. Physical assault history and/or Exposure to family violence
III. Intervention Scale	IV. Community Stability/Adjustment Scale
17. Accepting responsibility for offense(s) 18. Internal motivation for change 19. Understands risk factors 20. Empathy 21. Remorse and guilt 22. Cognitive distortions 23. Quality of peer relationships	24. Management of sexual urges and desire 25. Management of anger 26. Stability of current living situation 27. Stability in school 28. Evidence of support systems

Appendix E

Juvenile Sexual Offense Recidivism Risk Assessment Tool-II (JSORRAT-II)

Static Risk Factors
1. Number of adjudications for sex offenses (including current adjudication) 2. Number of different victims in charged sex offenses 3. Length of sexual offending history based on charged sex offenses 4. Under any form of supervision when they committed any sex offense for which they were eventually charged? 5. Was any charged felony-level sex offense committed in a public? 6. Use of deception or grooming in any charged sex offense? 7. Prior sex offender treatment status 8. Number of officially documented incidents of hands-on sexual abuse in which the offender was the victim 9. Number of officially documented incidents of physical abuse where the offender was the victim 10. Any placement in special education? 11. Number of education time periods with discipline problems 12. Number of adjudications for non-sexual offenses

Appendix F

Recidivism Coding Protocol

***Use official criminal records (CPICs) for coding the offences below.**
****Do not review CPICs or complete this portion of the protocol until all assessment measures have been coded.**

Subject ID #:	Date of Birth (dd/mm/yy):

- Date of release (dd/mm/yy) – If the youth has received probation (as opposed to a custody sentence), then enter the (most recent) index sentencing date: _____

RECIDIVISM: CHARGES ONLY - Charges do not result in conviction or sentencing.	
Date of first new charge (dd/mm/yy)	
Date of first new sexual offence charge (dd/mm/yy)	
Total # of new sexual offence charges	
Date of first new nonsexual violent offence charge (dd/mm/yy)	
Total # of new nonsexual violent offence charges	
Date of first new nonsexual nonviolent offence charge (dd/mm/yy)	
Total # of new nonsexual nonviolent offence charges	
Total # of new charges (sex + nonsexual violent + nonsexual nonviolent)	
RECIDIVISM: CONVICTIONS ONLY	
Date of first conviction (dd/mm/yy)	

Date of first sexual conviction (dd/mm/yy)	
Total # of new sexual convictions	
Date of first nonsexual violent conviction (dd/mm/yy)	
Total # of new nonsexual violent convictions	
Date of first nonsexual nonviolent conviction (dd/mm/yy)	
Total # of new nonsexual nonviolent convictions	
Total # of new serious convictions (sexual + nonsexual violent)	
Total # new nonsexual convictions (nonsexual violent + nonsexual nonviolent)	
Total # of new convictions (sex + nonsexual violent + nonsexual nonviolent)	

- Custody placement upon sentencing (Y/N): _____
    - If "Yes," length of first custody placement: _____
- Sentence type for first conviction (if there are multiple placement, then circle the most restrictive one received):
    4. Closed/secure custody
    5. Open custody
    6. Probation

Appendix G

Hare Psychopathy Checklist: Youth Version (PCL:YV)

Factor 1–Interpersonal	Factor 2–Affective
Impression management Grandiose sense of self-worth Pathological lying Manipulation for personal gain	Lack of remorse Shallow affect Callous/Lack of empathy Failure to accept responsibility
Factor 3–Behavioral	Factor 4–Antisocial
Stimulation seeking Parasitic orientation Lacks goals Impulsivity Irresponsibility	Poor anger control Early behavior problems Serious criminal behavior Serious violations of conditional release Criminal versatility
Impersonal sexual behavior Unstable interpersonal relationships	